Coal Mining and Reclamation Permit
Incidental Boundary Revision (IBR)

ORIGINAL

Issued To: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Twp Hwy 88
Beallsville, OH 43716

Telephone: (740) 926-9152

Permit Number: D-425
Application Number: IBR-425-11
Acreage: 7.10
Effective: 09/29/2006
Expires: 10/21/2009

Type of Operation: N/A

Reason: Construction of a bleeder shaft, access road, sumps, pond, topsoil storage, temporary spoil storage, and electric sub-station.

LOCATION OF PERMIT AREA

NAME OF LANDOWNERS	T	R	SECTION	LOTS	TOWNSHIP	COUNTY
American Energy Corporation	4	4	24		SUNSBURY	MONROE

The issuance of this IBR means only that the application to conduct a coal mining operation meets the requirements of Chapter 1513 of the Revised Code, and as such DOES NOT RELIEVE the operator of any obligation to meet other federal, state or local requirements.

This IBR is issued in accordance with and subject to the provisions, conditions, and limitations of Chapter 1513 of the Revised Code and Chapters 1501:13-1, 1501:13-3 through 1501:13-14 of the Administrative Code.

The approved water monitoring plan for this IBR is:

Quality: N/A
Quantity: N/A

Note: Any previous condition(s) imposed on this permit, or subsequent adjacent areas, also apply to this IBR unless noted otherwise.

Signature: Michael L. Sparks by [illegible]
Chief, Mineral Resources Management

Date: 09/29/2006

RECEIVED
OCT 13 2006
DIVISION OF MINERAL RESOURCES MANAGEMENT
SUPERVISION

F101 Rev. 07/01/2001

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR SAMUEL W. SPECK, DIRECTOR

Division of Mineral Resources Management
Michael L. Sponsler, Chief
2050 East Wheeling Ave.
Cambridge, Ohio 43725-2159
Phone: (740) 439-9079 Fax: (740) 432-7711

Date: 10/12/2006

To: Appropriate Governmental Agencies

From: Michael L. Sponsler, Chief
Division of Mineral Resources Management

Re: Coal Mine Application Number: IBR-425-11
Coal Mine Permit Number: D-425
Mine Name: Century Mine
Date Issued: 09/29/2006

Applicant: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Twp Hwy 88
Bealisville, OH 43716

Telephone: (740) 926-9152

Permit Location:

COUNTY	TOWNSHIP	SECTION	LOTS	T	R	Quad
MONROE	SUNSBURY	24		4	4	CAMERON

Surface Acres: 7.1

The Division of Mineral Resources Management has issued a coal mining and reclamation permit Incidental Boundary Revision (IBR) to the above named applicant. The permit number and date of issuance is shown above.

The approved water monitoring plan for this permit's IBR is:

Quality: N/A

Quantity: N/A

Distribution List:

Office of Surface Mining
4605 Morse Road
Room 102
Columbus, OH 43230

U.S. Fish & Wildlife Service
Attn: Mary Knapp, Ph. D.
6950 Americana Parkway
Suite H
Reynoldsburg, OH 43068-4127

Ohio Historical Preservation Office
567 East Hudson Street
Columbus, OH 43211-1030

Michael Eggart
Ohio EPA, Division of Drinking & Groundwater
Lazarus Government Center
P.O. Box 1049
Columbus, OH 43216-1049

Butch Grieszmer
Division of Natural Areas & Preserves
2045 Morse Road, Bldg. F-1
Columbus, OH 43229-6693

Jack A. Hamilton & Associates, Inc.
P.O. Box 471
342 High Street
Flushing, OH 43977

Bruce Goff
Ohio EPA, Southeast District Office
2195 Front Street
Logan, OH 43138

Monroe County Commissioners
Courthouse
101 North Main Street, Room 12
Woodsfield, OH 43793

Sunsbury Township Trustees
c/o Loren Baker, Clerk
51512 SR 145
Beallsville, OH 43716

Monroe County Planning Commission
Courthouse
101 N. Main St.
Woodsfield, OH 43793

12/00

OHIO DEPARTMENT OF NATURAL RESOURCES

Division of Mineral Resources Management

Written Findings

Applicant: AMERICAN ENERGY CORP

Application Number: IBR-425-11

The Division of Mineral Resources Management completed a regulatory review of this Incidental Boundary Revision on 9/21/2006. As required in provisions of 1501:13-5-01(E) of the Ohio Administrative Code (OAC), the Division's comprehensive review of this application resulted in finding the following:

1 The permit area is not within an area designated as unsuitable for mining pursuant to 1501:13-3-07 of the Ohio Administrative Code. As of this date, three areas within the state have been designated as unsuitable: Guernsey County, Valley Township Sections 7 & 8 (for all coal mining operations); Carroll County, Harrison Township Sections 4 and 5, Center Township Sections 27 and 33, Washington Township Sections 28, 29, 30, 34, 35, and 36 (for full coal recovery underground mining operations); and Belmont County, Smith Township Sections 27, 28, 33, 34 (for surface operations), and Sections 27, 33, 34 (for underground operations above the Meigs Creek No. 9 coal seam).

2 The permit area is not within an area under study for designation as unsuitable for mining. This finding was determined following a review of lands unsuitable petitions on file with the Division as of 9/29/2006.

3 The permit area is not within one hundred feet of a cemetery or a pre-historic burial mound. This finding was determined following a field review conducted by the Division's Field Environmental Specialist and/or the Division's Archaeologist on 8/29/2006 and subsequent map review of the application area and review of Part 1, D(9) of the permit application.

4 The permit area is not within one hundred feet of the outside right-of-way of a public road. This was determined from a field review conducted by the Division's Field Environmental Specialist on 8/21/2006 . We further confirmed this through a map review of the application area and a review of, Part 1, D(6) of the permit application.

5 From a field review conducted by the Division's Field Environmental Specialist on8/21/2006and our subsequent map reviews, we determined that the permit is located within three hundred feet of occupied dwellings owned by the following : S. Mullett, S. Seebach. However, we have determined that the applicant has VER in accordance with 1501:13-1-02 based upon review of information included under Part 1, D(7) Deeds of the permit application.

6 The proposed mining operation will not adversely affect publicly owned parks or places included or eligible for listing on the National Register of Historic Places. We determined this following reviews by the Division Archaeologist, the State Historic Preservation Office (SHPO), a field review conducted by the Division's Field Environmental Specialist, and map reviews conducted by the Division. Correspondence in the administrative file from the Division's Archaeologist and the SHPO dated 8/29/2006 support this finding.

7 The permit area is not within three hundred feet of a public building, school, church, community or institutional building, or public park. This finding was determined following a field review conducted by the Division's Field Environmental Specialist on 8/21/2006, the Division's subsequent map reviews, and a review of Part 1, D(8) of the permit application.

8 The permit area does not include any lands within the boundaries of the National Park System, The National Wildlife Refuge System, The National System of Trails, The National Wilderness Preservation System, The Wild and Scenic Rivers System, including study rivers designated under Section 5(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1276 (a)), or study rivers or study river corridors as established in any guidelines pursuant to that Act, National Recreation Areas designated by Acts of Congress, or any nature preserve dedicated pursuant to Chapter 1517. of the Revised Code. This finding is based upon reviews by the U.S. Department of Interior dated 7/25/2006; the Ohio Department of Natural Resources, Division of Natural Areas and Preserves dated 8/3/2006; a field and map review by our Division Environmental Specialists on 8/21/2006; and our review of Part 1, D(1) and D(3) of the permit application.

9 The permit does not include any federal lands within the boundaries of any National Forest. This finding is based upon reviews by the U.S.D.A Forest Service dated 7/25/2006 , a field review conducted by the Division's Field Environmental Specialist on 8/21/2006 , and map reviews conducted by the Division.

10 The permit area is not located within one thousand feet of the waterlines of any wild, scenic, or recreational river dedicated pursuant to Chapter 1501 of the Ohio Revised Code. This finding is based upon a field review conducted by the Division's Field Environmental Specialist on 8/21/2006 , map reviews, and a review completed by the Ohio Department of Natural Resources, Division of Natural Areas & Preserves dated 8/3/2006 . Also see Part 1, D(2) of the permit application.

11 Coal mining operations proposed in this permit application will not affect the continued existence of threatened or endangered species or result in the destruction or adverse modification of their critical habitat as determined under the Endangered Species Act of 1973 (16 U.S.C. 1513 et seq.). There are several species on the federal list that are found in the coal mining region of Ohio. Sightings of Indiana bats have been recorded in Monroe County. Review of the permit application; consultation with the U.S. Department of the Interior, Fish and Wildlife Service dated 7/25/2006; and information dated 8/3/2006 provided by the Natural Heritage Program administered by the Division of Natural Areas & Preserves; and/or consideration of the endangered and threatened species from the U.S. Fish & Wildlife Service (12/00) offer no indication of listed species having been sighted or critical habitat on or in the vicinity of the application area.

12 The private mineral estate has not been severed from the private surface estate based on review of the documents filed to comply with 1501: 13-4-03 (E) of the Ohio Administrative Code. The documents are part of the permit application under Part 1 C(9).

13 The applicant and/or any affiliated company has corrected or is in the process of correcting, to the satisfaction of the issuing agencies, all notices of violations/IHCO's and has no unpaid final demand(s) for civil penalty assessments. This finding is based on verification of Division-issued NOV's, IHCO's, and CPA's and review of information through the AVS on 9/29/2006. See attached documentation verifying this information. This finding is also based on a records search by Brent Heavilin from the district office on 9/29/2006.

14 The applicant is required to submit the acreage fees prior to issuance of the permit. Receipt for payment is part of the permit file. The applicant is not delinquent in payment of the Federal reclamation fee required by Section 402 of Public Law 95-87 based on review of the AVS on 9/29/2006 . See attached AVS printout.

15 The applicant is required to submit performance bond prior to issuance of the permit. The receipt for payment of bond is part of the permit file.

16 The applicant (and the operator, if applicable) does not control and has not controlled mining operations with a demonstrated pattern of willful violations of Chapter 1513. of the Revised Code and rules adopted thereunder of such nature, duration, and with such resulting irreparable damage to the environment as to indicate an intent not to comply with such provisions. This finding is based on a records search by Brent Heavilin from the district office on 9/29/2006

17 The Division has reviewed and the chief has approved each of the following items pursuant to 1501:13-01 through 1501:13-14 of the Ohio Administrative Code:

☐	Buffer Zone Variance Request:	Date of Approval
☐	Test Hole Variance Request:	Date of Approval
☑	Small Area Drainage Exemption:	Date of Approval
☐	Road Permit:	Date of Approval
☐	Alternative Resoiling Material:	Date of Approval
☐	Benefical use of CCP's	Date of Approval
☐	Other permits necessary to operate are issued or applied for including: NPDES, 404, 401, or the permit is conditioned appropriately.	Date of Approval

Refer to the administrative file for documentationof any other specific approval required.

18b The postmining land uses are proposed to be different from the premining land uses. We determined that the proposed alternative postmining land use(s) are in accordance with 1501:13-9-17(D) of the Ohio Administrative Code based on our review of Part 2, H(1), H(6), and H(12) of the permit application.

20 Coal mining and reclamation to be performed under this permit will be consistent with other operations to be performed during the same permit term in areas adjacent to the permit area. This finding is based upon the Division's review of the permit application and adjacent proposed or existing permit areas, including D-425

21 Based on our hydrologist's review of Part 2, Items B, C, D, E, F and Part 3, Items A(7), D(9), E, F, H of the permit application as documented in the Cumulative Hydrologic Impact Assessment (CHIA), we find that the proposed operations have been designed to prevent damage to the hydrologic balance outside the permit area.

22 The probable cumulative hydrologic impact for this mining operation area and adjacent areas on the hydrologic regime and water availability is . This finding is based upon the Division's hydrologist's a comprehensive review of the permit application, Attachment 14, analysis of existing ground water data maintained by the Division of Water, and other available hydrological and geological data which is part of the permit application. These findings are summarized in the (CHIA) completed by the Division's hydrologist on 9/18/2006.

23 Based upon the Division's review of the permit application; use of reasonable mining and reclamation practices proposed in the application; technical review by the Division's engineers, hydrologists, soil scientists, and other technical experts; consultation with other agencies; and the Division's previous experience with the applicant (if applicable), the chief of the Division has found that the mining and reclamation plans contained in Parts 2, 3, and 4 of the application can be feasibly and responsibly accomplished.

24 The permit application does not propose to use an existing structure in connection with or to facilitate the proposed coal mining and reclamation operation. This finding is based upon a field review conducted by the Division's Field Environmental Specialist on 8/21/2006 , map reviews, and Part 3, B(1) of the permit application

25a Based upon a comprehensive review of the permit application, a field review conducted by the Division's Field Environmental Specialist on 8/21/2006 , and our review of Part 4 of the permit application, the permit does not include provision for any special categories of mining such as experimental practices, mountaintop removal, steep slope mining, and other special categories of mining.

26 To protect against possible adverse effects of the proposed mining operations on properties listed or eligible for listing on the National Register of Historic Places, the Chief of the Division has implemented one of the following three actions after considering information provided by the Division Archaeologist and the SHPO dated 8/29/2006

- ☐ The permit is conditionally approved with strict limitations on mining activities in and around the historic resources. Please refer to the permit approval document that includes special conditions designed to protect historic resources that are applicable to this permit.
- ☐ Prior to application approval, the Chief requested specific revisions to the proposed mining and reclamation plan so that impacts to the historic resources on the permit area are eliminated and/or minimized. Submitted revisions are reflected in the permit application.
- ☑ Following review by the Division's Archaeologist and representatives of the State Historic Preservation Office (SHPO), the Chief determined in a written finding that no additional protective measures are needed to protect the historic resource(s) found on the permit area.

27 Following review of the permit application, map reviews, field reviews conducted by the Division's Field Environmental Specialists and a review of Part 3, D(4) of the application, we determined that the application DOES NOT include lands eligible for remining

28 The Division of Mineral Resources Management has determined that permit application number IBR-425-11 submitted on 7/25/2006 , is accurate, complete, and complies with the requirements of Chapter 1513 of the Ohio Revised Code and all rules adopted thereunder.

☐ There are no special conditions on this permit.

☑ Check items 13, 17, 19e and 26 for the special conditions that may apply to this permit.

Application Manager — Date 9-29-06

Chief Division of Mineral Resources Management — Date

ORIGINAL

IBR-425-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

RECEIVED
JUN 21 2011

APPLICATION FOR INCIDENTAL BOUNDARY REVISION (IBR)
(This form cannot be utilized for the removal of coal)

1. Applicant's Name: **American Energy Corporation**
2. Address: **43521 Mayhugh Hill Road**
   City, State, Zip: **Beallsville, Ohio 43716**
   Telephone: **740-926-9152**
3. Coal Mining Permit Number: **D-0425** Mine Name **Century Mine**
4. Additional acres to be permitted: **7.1** MSHA # **33-01070**
5. Acres to be deleted **0**
6. Has this acreage been affected under this permit?
   ☐ Yes, ☒ No If "yes," list violation number(s).

   Has this acreage previously been affected by other activities other than this permit?
   ☐ Yes, ☒ No If "yes," describe:

7. Describe the reason this additional acreage is required.
   An additional bleeder shaft is necessary for the Century Mine.

8. Describe the activities to be conducted on this area.
   Construction of a bleeder shaft, access road, sumps, pond, topsoil storage, temporary spoil storage, and electric sub-station.

Revised 02/06
DNR-744-9005

IBR-0425-11

9. List all surface and mineral owners within the IBR area.

Surface and Mineral Owner Names	County	Township	Section	Lot	T-	R-
Name **American Energy Corporation** Address **43521 Mayhugh Hill Rd.** City **Beallsville** State **OH** Zip **43716** Surface ☒ Mineral ☒	**Monroe**	**Sunsbury**	**24**	**n/a**	**4**	**4**
Name Address City State Zip Surface ☐ Mineral ☐						
Name Address City State Zip Surface ☐ Mineral ☐						
Name Address City State Zip Surface ☐ Mineral ☐						
Name Address City State Zip Surface ☐ Mineral ☐						

1 B K - 0 4 2 5 - 1 1

10. Is any owner, holder or purchaser listed in item 9, a business entity other than a single proprietorship?

Yes ☒ No ☐ If "yes," submit Other Business Entities.

11. Is any part of this IBR application area adjacent (within 100') to any lands, which are not owned by those persons identified in item 9?

Yes ☒ No ☐ If "yes," submit Adjacent Owners **S. Seebach, S. Mullet, and R. & G. Mellet**

12. Identify the right of entry documentation that is being provided that allows for coal mining operations on this IBR area:

☐ A copy of the right-of-entry documents attached as addenda, or

☒ A Right-of-Entry Affidavit

13. Has the private mineral estate (coal) been severed from the private surface estate?

Yes ☐ No ☒ If "yes," indicate which documentation is provided:

☐ Surface Owners' Consent

☐ A copy of the document of conveyance that allows the proposed activities

☐ If the document of conveyance does not expressly allow the proposed activities, documentation that under state law the applicant has the legal authority to conduct the proposed activities.

14. Does the IBR application area include any area dedicated as a nature preserve pursuant to Chapter 1517 Ohio Revised Code?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

15. Does the IBR application area include any area within one thousand feet of the waterlines of any wild, scenic or recreational river dedicated pursuant to Chapter 1501 Ohio Revised Code?

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **American Energy Corporation**

Statutory agent **A & H Statutory Corp.**

Street Address **1100 Huntington Bldg.**

City **Cleveland** State **OH** Zip **44115**

Person's name **Robert E. Murray** Position **President**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Murray Energy Corporation** Position **Sole Shareholder**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name Position

Street Address

City State Zip

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DNR-744-9012

IBK-0423-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **American Energy Corporation**

Statutory agent **See page 1**

Street Address

City State Zip

Person's name **James R. Turner** Position **Treasurer**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name **Robert L. Pusock** Position **Assistant Treasurer**

Street Address **43521 Mayhugh Hill Road**

City **Beallsville** State **OH** Zip **43716**

Person's name Position

Street Address

City State Zip

Person's name Position

Street Address

City State Zip

Revised 02/06
DNR-744-9012

IBR-0425-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Murray Energy Corporation**

Statutory agent **Ct. Corporation**

Street Address **1300 East Nineth Street**

City **Cleveland** State **OH** Zip **44114**

Person's name **Robert E. Murray** Position **Chairman CEO, & Shareholder**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **John R. Forrelli** Position **Vice President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Robert D. Moore** Position **Vice President**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name Position

Street Address

City State Zip

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DNR-744-9012

IBR-0425-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

OTHER BUSINESS ENTITIES

Applicant's Name **American Energy Corporation**

A separate attachment is to be submitted for each business entity.

Name of business entity **Murray Energy Corporation**

Statutory agent **Ct. Corporation**

Street Address **1300 East Nineth Street**

City **Cleveland** State **OH** Zip **44114**

Person's name **P. Bruce Hill** Position **Vice President - Human Resources**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name **Michael O. McKown** Position **Secretary**

Street Address **29325 Chagrin Blvd., Suite 300**

City **Pepper Pike** State **OH** Zip **44122**

Person's name Position

Street Address

City State Zip

Person's name Position

Street Address

City State Zip

Revised 02/06
DNR-744-9012

IBR-0425-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

ADJACENT OWNERS

Applicant's Name **American Energy Corporation**

Name of owner **S. Seebach**
Address **46646 State Route 556**
City **Beallsville** State **OH** Zip **43716**
☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **S. Mullet**
Address **3064 U.S. Highway 50**
City **Beallsville** State **OH** Zip **43716**
☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner **R. & G. Mellet**
Address **46534 State Route 556**
City **Beallsville** State **OH** Zip **43716**
☒ Surface, ☐ Coal, ☒ Non-Coal Mineral

Name of owner
Address
City State Zip
☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

Name of owner
Address
City State Zip
☐ Surface, ☐ Coal, ☐ Non-Coal Mineral

Part 1: Section C

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DNR-744-9013

IBR-0425-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

RIGHT-OF-ENTRY AFFIDAVIT

Applicant's Name **American Energy Corporation**

RIGHT-OF-ENTRY AFFIDAVIT

State of Ohio, **Belmont** County, ss. **James R. Turner** being first duly sworn, says that the following described documents convey to the applicant the legal right explained below and is a subject of litigation as shown below.

Type of document **Deed**

Execution Date **June 15, 2006**

Expiration Date **N/A**

Parties: From **S. Mullett** to **American Energy Corporation**

Description of land: Number of Acres **150.639**

County **Monroe** Township **Sunsbury**

Section **24** Lot

Explanation of legal rights claimed **All rights of ownership.**

Pending litigation Yes ☐ No ☒

Signature of Affiant	6-19-06 Date	Treasurer Position

Sworn to before me and subscribed in my presence this 19th day of, June, 2006

Barbara L. Rush
Notary Public

BARBARA L. RUSH
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 9-08-08

Part 1: Section C

02/06
DNR-744-9060

IBR-0425-11

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

16. Does the IBR application area include any area within the boundaries of the following systems: national park, national wildlife refuge, national trails, national wilderness preservation, national recreational areas or wild and scenic rivers or river corridors including those rivers under study?

    Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

17. Does the IBR application area include any federally owned lands within the boundaries of any national forest?

    Yes ☐ No ☒ If "yes," submit approval of U.S. Secretary of Interior or proof of valid existing rights.

18. Will operations conducted within this IBR adversely affect any publicly owned park or places included on the National Register of Historic Places?

    Yes ☐ No ☒ If "yes," submit joint approval from the chief and the federal, state or local agency with jurisdiction over the park or places or proof of valid existing rights and describe the measures to be used to prevent or minimize these impacts.

19. Will operations conducted within this IBR affect land within one hundred feet of the outside right-of-way of a public road or result in mining through a public road?

    Yes ☐ No ☒ If "yes," list the public road(s) in the space below and submit Public Road Consent or proof of valid existing rights.

20. Will operations conducted within this IBR affect land within three hundred feet of any occupied dwelling?

    Yes ☒ No ☐ If "yes," list the name of the owner(s) in the space below and submit Occupied Dwelling Consent or proof of valid existing rights.

    S. Mullett

    S. Seebach

    See attached deeds and addenda for proof of existing rights.

Addendum to I.B.R., Item 20
American Energy Corporation

American Energy Corporation claims valid existing right based on deed Volume 90, Page 142, and deed Volume 125, Pages 467 and 470, and Memorandum of Lease Volume 112 Page 161 (which includes surface rights for parcel number 50). American Energy Corporation further states that this coal is needed for, and immediately adjacent to, the ongoing coal mining operation which began in 1967 for which all mine plan approvals and permits were obtained prior to August 3, 1977 as the same is stated in original permit D-0425 in Part 1, Page 11, under Item D(6).

IBR-0425-11

Addendum to I.B.R., Item 20
American Energy Corporation

Transfer Not Necessary
Ohio 6-28-02 Sec. 319.202 Complied With
Pandora J. Shephard, Auditor, Monroe Co. Ohio
By MS

031135

MONROE CO. RECORD OF Official Records
VOL 90 PAGE 142

02 JUN 28 PM 2:41
RECORDED June 28, 2002
MARTHA LOUISE REED
RECORDER FEE $170.00

VOL0090 PAGE142

LIMITED WARRANTY DEED

KNOW ALL MEN BY THESE PRESENTS: That NORTH AMERICAN COAL ROYALTY COMPANY (formerly known as Nortex Royalty Company), a Delaware corporation, with offices at 14785 Preston Road, Suite 1100, Dallas, Texas 75254-7891, the GRANTOR, in consideration of the sum of Ten Dollars ($10.00) and other valuable consideration to it paid by the CONSOLIDATED LAND COMPANY, an Ohio corporation, whose tax mailing address is 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122, the GRANTEE, the receipt and sufficiency of which is hereby acknowledged, does hereby GRANT, BARGAIN, SELL and CONVEY to said GRANTEE, with limited warranty covenants to the GRANTEE, its successors and assigns, all of the remaining coal, specifically including, but not limited to, the Pittsburgh No. Eight (8) seam or vein of coal contained in or underlying the tracts of land more particularly described on Exhibit "A" attached hereto and made a part hereof; EXCEPT all coal lying in and within three hundred (300) feet of the boundaries of the old mine workings of Bellaire Corporation's Powhatan No. 1 Mine more particularly described on Exhibit "B" attached hereto and made a part hereof; and EXCEPT all coal lying in and within three hundred (300) feet of the boundaries of the old mine workings of Quarto Mining Company's Quarto No. 4 Mine more particularly described on Exhibit "C" attached hereto and made a part hereof.

TOGETHER with such mining rights and other rights and privileges pertinent to the tracts set forth on Exhibit "A" (hereinafter called the "Premises").

TO HAVE AND TO HOLD such Premises, unto the said GRANTEE, its successors and assigns, forever. EXCEPT AND SUBJECT as hereinbefore provided, and expressly SUBJECT to all legal highways.

IBK-0425-11

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AND the said GRANTOR hereby covenants with the said GRANTEE that said Premises are free and clear from all encumbrances by, from or through the said GRANTOR, and except and subject as hereinbefore provided, and that the GRANTOR will warrant and defend the same to the GRANTEE, only as against the lawful claims and demands of all persons claiming by, through or under the said GRANTOR herein, but against none other.

IN WITNESS WHEREOF, GRANTOR has caused its name to be hereunto subscribed by its duly authorized officers this 27th day of June, 2002.

Signed and acknowledged in the presence of:

Nancy J. LeMay

David G. Mitchell

Nancy J. LeMay

David G. Mitchell

NORTH AMERICAN COAL ROYALTY COMPANY, a Delaware corporation

By _____
Thomas A. Koza, President

By _____
Andrew S. Gorul, Secretary

STATE OF TEXAS

COUNTY OF DALLAS, SS:

On this the 27th day of June, 2002 appeared before me, Thomas A. Koza, who acknowledged himself to be President of North American Coal Royalty Company, a Delaware corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as President.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.

BELINDA COLEMAN
MY COMMISSION EXPIRES
November 29, 2005

_____
Notary Public

My Commission Expires: 11-29-05

IBK-0425-11

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STATE OF TEXAS

COUNTY OF DALLAS, SS:

On this the 27th day of June, 2002 appeared before me, Andrew S. Good, who acknowledged himself to be Secretary of North American Coal Royalty Company, a Delaware corporation, and that as such officer being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation as Secretary.

IN WITNESS WHEREOF, I hereunto set my hand and Notarial seal.

BELINDA COLEMAN
MY COMMISSION EXPIRES
October 20, 2005

Belinda Coleman
Notary Public

My Commission Expires: 10-20-05

This Instrument Prepared By: Elizabeth L. Glick
Attorney at Law
St. Clairsville, Ohio

IBK-0425-11

PARCEL THIRTEEN
(PARCEL FORTY-FIVE - LEMUEL READ TRACTS)

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

FIRST TRACT: The Southeast Quarter of the Southwest Quarter of Section 22, Township 4, Range 4. Containing 40 acres.

SECOND TRACT: Being a part of the Southeast Quarter of Section 22, Township 4, Range 4, commencing for the same at a center post on the East and West Section line; thence North 80 rods; thence East 3 rods to the center of a road; thence in a Southeast direction with said road 35 rods to the second crossing of the run; thence with meanderings of said run 55 rods and 13 feet to the Section line; thence West 7 rods to the place of beginning, containing 7 acres, more or less. CONTAINING in all 47 acres, more or less.

Together with the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining and ventilating, and carrying away said coal, etc. (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to the grantee, his heirs and assigns, or which may hereafter be acquired by said grantee, his heirs and assigns. Said grantors, for themselves, and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas. It is understood and agreed between the parties hereto that the said grantors and their heirs shall be paid at the rate of $100.00 per acre for all surface land taken and used for mining said coal by said grantee, his heirs or assigns.

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Part of Auditor's Reference No. 24-035003

Prior Deed Reference: Deed Volume 199, Page 364
Parcel 45
North American Coal Corporation to
Nortex Royalty Company

PARCEL NO. FOURTEEN
(PARCEL FIFTY-ISAAC TAYLOR TRACTS)

Situated in the Township of Sunbury, County of Monroe and State of Ohio.

Being a part of Section 24, Township 4, Range 4, and beginning for the same at a point which is distant West 133 rods and 8 links from a stone at the Northeast corner of said Section 24 and South 32 rods and 10 links from the North boundary of Section 24 which said point is the beginning point for said Tract No. 50; thence South 8 3/4° West 11.32 chains; thence South 19.42 chains to a stone; thence East 1.25 chains to a small ravine; thence up said ravine South 7 1/4° East 11.25 chains to middle of the public road; thence with said public road North 53 1/4° East 2.63 chains; thence North 49 1/2° East 2.30 chains; thence North 71° East 1.50 chains; thence North 65° East 1.85 chains; thence North 49° East 2 chains; thence North 35° East 1.50 chains; thence North 47 1/4° East 2 chains; thence South 50° East 1.50 chains; thence South 44 1/4° East 2 chains; thence South 67 1/4° East 1.50 chains; thence South 84° East 1.80 chains; thence North 37 chains; thence West 17.22 chains to the place of beginning, containing 59 acres, more or less.

Together with the free and uninterrupted right of way into, upon and under said land, at such points, and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining and ventilating, and carrying away said coal, etc. (hereby waiving all surface damages or damages of any sort arising therefrom, or from the removal of all of said coal), together with the privilege of mining and removing through said described premises other coal belonging to the grantee, his heirs and assigns, or which may hereafter be acquired by said

IBR-0425-11

grantee, his heirs and assigns. Said grantees, for themselves, and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas. It is understood and agreed between the parties hereto that the said grantors and their heirs shall be paid at the rate of $100.00 per acre for all surface land taken and used for mining said coal by said grantee, his heirs or assigns.

Part of Auditor's Reference No. 24-035005

Prior Deed Reference: Deed Volume 199, Page 344
Parcel 50
Note: American Coal Corporation to
Norex Royalty Company

0030 PAGE 158

PARCEL FIFTEEN
(PARCEL FIFTY-FIVE - CHARLES HEADLEY TRACTS)

Situated in Symsbury Township, County of Monroe and State of Ohio,

FIRST TRACT:- The Northwest Quarter of the Southeast Quarter of Section 22, Township 4, Range 4, Containing 40 acres, more or less.

SECOND TRACT:- Also a part of the Southwest Quarter of the Northeast Quarter of Section 22, Township 4, Range 4, beginning for the same at the Southwest corner of the Northeast Quarter or in the center of said Section 22; running thence North 40 rods to a stake; thence East 80 rods to a stake; thence South 40 rods to a stake; thence West 80 rods to the place of beginning. Containing 20 acres, more or less.

THIRD TRACT:- The middle part of the South half of the Southeast Quarter of Section 22, Township 4, Range 4, beginning for the same at the Southeast corner of the Southwest Quarter of the Southeast Quarter of said Section 22, running thence North 87 ½ degrees West, 8 ½ chains to a stake in the run-witness, a red oak 12 inches in diameter, leaning North 74 ½ degrees East, distance 9 links; thence down said run with its meanderings North 40 degrees West, 2 ½ chains; thence North 54 ½ degrees West, 2.90 chains, thence South 73 ½ degrees West, 2.87 chains; thence North 56 ½ degrees West, 40 links to a stake in the run; thence North 3 degrees West, 2.08 chains to a stake in the road; thence with said road North 16 1/4 degrees West, 4.10 chains; thence leaving said road North 8 degrees East, 2.40 chains; thence North 43 1/4 degrees West, 1 1/4 chains to a stake in the road; thence with said road North 10 degrees East, 4.34 chains; thence North 35 degrees West, 4 chains; thence North 22 ½ degrees West 73 links to the half quarter section line; thence with said line South 87 ½ degrees East, 17.14 chains to a stake in the corner of the road; thence with said road South 41 degrees East, 4.52 chains; thence South 38 degrees East, 1 ½ chains; thence South 32 degrees East, 4.98 chains; thence South 23 1/4 degrees East, 1 chain; thence South 2 degrees West, 7.27 chains; thence South 12 degrees East, 3.52 chains to a stake in said road and in the section line; thence with said Section line North 87 ½ degrees West, 4.84 chains to the place of beginning. Containing 38 acres and 30 perches.

FOURTH TRACT:- Being the Northeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, Containing 40 acres more or less.

FIFTH TRACT:- The Southeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, containing 40 acres, more or less; excepting therefrom the following described premises: commencing for the same 11 rods and 9 links West of the Northeast corner of the Southeast Quarter of the Northwest Quarter of Section 22, Township 4, Range 4, thence West 8 rods; thence South 10 rods; thence East 8 rods in the road; thence North 10 rods to the place of beginning. Containing ½ acre.

SIXTH TRACT:- The North half of the Southwest Quarter of the Northeast Quarter of Section 22, Township 4, Range 4, Containing 20 acres, more or less. CONTAINING in all of the said several tracts of land, after above exception, 192.60 acres, more or less.

-10-

IBK-0425-11

Addendum to I.B.R., Item 20
American Energy Corporation

VOL 112 PAGE 161

Instrument
200300006636

MEMORANDUM OF LEASE

THIS MEMORANDUM OF LEASE (this "Memorandum"), dated as of May 23, 2003, by and between Consolidated Land Company, an Ohio corporation having a mailing address at 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122 (the "Lessor"), and American Energy Corporation, an Ohio corporation having a mailing address at 43521 Mayhugh Hill Road, Township Highway 88, Beallsville, Ohio 43716 (the "Lessee"). The Lessor and the Lessee are parties to that certain Lease Agreement dated February 1, 2002 (the "Lease"), pursuant to which the Lessor leased to the Lessee certain land described on Exhibit A attached hereto and incorporated herein by reference and the improvements located thereon.

1. The name of the Lessor under the Lease is: Consolidated Land Company.

2. The name of the Lessee under the Lease is: American Energy Corporation.

3. The address of the Lessor is: 29325 Chagrin Boulevard, Suite 300, Pepper Pike, Ohio 44122. The address of the Lessee is: 43521 Mayhugh Hill Road, Township Highway 88, Beallsville, Ohio 43716.

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4. The date of execution of the Lease is: February 1, 2002.

5. The Lessor leased to the Lessee the land described on Exhibit A attached hereto and incorporated herein by reference and the improvements located thereon.

6. The date of commencement of the term of the Lease was: February 1, 2002.

7. The term of the Lease is for a period lasting until all mineable and merchantable coal has been depleted.

8. This Memorandum is executed for recording. The Lease contains and sets forth other important terms and provisions which are incorporated herein by reference.

9. This Memorandum shall not limit, expand, supplement or modify the Lease, and in the event of any conflict between the terms of this Memorandum and the Lease, the Lease shall control.

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TRANSFER NOT NECESSARY
PAUL F. BENNETT, P.E., P.S.
COUNTY ENGINEER 06-16-03

TRANSFER NOT NECESSARY
6-16-03
JOSEPH A. PAPPANO, AUDITOR
BY DEPUTY

Prepared By:
NAME: AMERICAN ENERGY CORPORATION
CO/ST: BELMONT CO., OH (4)

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IBR-0425-11

AEC 19548

IN WITNESS WHEREOF, the Lessor and the Lessee have duly executed this Memorandum as of the day and year first above written.

LESSOR:

CONSOLIDATED LAND COMPANY

By: ______________________
Name: Peter J. Vultavic
Title: President

LESSEE:

AMERICAN ENERGY CORPORATION

By: ______________________
Name: Robert D. Moore
Title: President

CERTIFICATE OF RESIDENCE

The undersigned certifies that the residence of the Lessee is 43521 Mayhugh Hill Road, Beallsville, OH 43716 Attention: Steven Hill

____
On Behalf of the Lessee

MONROE CO. RECORD OF Official Records
VOL 104 PAGE 179
RECEIVED
03 JUN 20 PM 12:11
RECORDED June 20, 2003
MARTHA LOUISE REID
RECORDER FEE $30.00

VOL 0104 PAGE 179
0344

200300006636
Filed for Record in
BELMONT COUNTY, OHIO
MARY CATHERINE NIXON
06-16-2003 01:11 pm.
LEASE 30.00
Volume 112 Page 161 - 166

Transfer Not Necessary
Date 6-20-03 Sec. 319.202 Complied With
Pandora J. Neuhart, Auditor, Monroe Co. Ohio
By ______ Fee 0 Mill 0

MI1A132693\02\2TX902!.DOC\68535.0146

IBR-0425-11

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CERTIFICATES OF ACKNOWLEDGEMENT

STATE OF PENNSYLVANIA)
) ss:
COUNTY OF JEFFERSON)

On this, the 27th day of May, 2003, before me, a Notary Public, the undersigned officer, personally appeared Peter J. Vuljanic, who acknowledged himself/herself to be the President of CONSOLIDATED LAND COMPANY, a corporation organized and existing under the laws of the State of Ohio, and that he/she, as such he, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Name: Ronald E. Armstrong
Title: Notary Public

My commission expires: 09/04/2004

Notarial Seal
Ronald E. Armstrong, Notary Public
Snyder Twp., Jefferson County
My Commission Expires Sept. 4, 2004
Member, Pennsylvania Association of Notaries

STATE OF Ohio)
) ss:
COUNTY OF Belmont)

On this, the 23 day of May, 2003, before me, a Notary Public, the undersigned officer, personally appeared Robert D. Moore, who acknowledged himself/herself to be the President of AMERICAN ENERGY CORPORATION, a corporation organized and existing under the laws of the State of Ohio, and that he/she, as such he, being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself/herself as President.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Barbara L. Rush
Name:
Title: Notary Public

My commission expires: 9-01-04

NOTARIAL SEAL STATE OF OHIO

BARBARA L. RUSH
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 9-01-04

M11A13209?/02GTXR02!.DOC\68535.0146

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AEC 19550

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EXHIBIT A

Situate in the Counties of Belmont and Monroe, State of Ohio:

Beginning at the SW corner of Section 12, T5N, R5W, Sunsbury Township, Monroe County, Ohio:

Thence northerly with the west section line of said Section 12 to the NW corner of Section 12;

Thence easterly with the north section line of said Section 12 to the SW corner of Section 7, T6N, R5W, Wayne Township, Belmont County, Ohio;

Thence northerly with the west section lines of Sections 7, 8, 9, 10 and 11, T6N, R5W, to the quarter section line of Section 11, T6N, R5W;

Thence westerly with the quarter section line of the adjoining Section 17 to the center of Section 17, T6N, R5W;

Thence northerly with the quarter section line of said Section 17 to the south section line of Section 18, T6N, R5W;

Thence westerly with the south section line of said Section 18 to the SW corner of said Section 18;

Thence northerly with the west section line of said Section 18 to the SE corner of Section 19, T7N, R5W, Goshen Township;

Thence westerly with the south section lines of said Section 19 and Section 25 to the quarter section line of Section 25, T7N, R5W;

Thence northerly with the quarter section line of said Section 25 to the south section line of Section 26, T7N, R5W;

Thence continuing northerly with the quarter section line of said Section 26 to the north section line of said Section 26;

Thence easterly with the north section lines of Sections 26, 20, 14, 8 and 2 to the NE corner of Section 2, T7N, R5W, Goshen Township;

Thence southerly with the east section line of said Section 2 to the NW corner of Section 32, T6N, R4W, Smith Township;

Thence easterly with the north section line of said Section 32 to the NE corner of said Section 32;

Thence southerly with the east section line of Sections 32 and 31 to a point on said east section line which marks the SE corner of Consolidated Land Company's coal ownership in Section 31, T6N, R4W;

Thence westerly, parallel to the south section line of said Section 31, to a point on the section line between said Section 31 and Section 1, T7N, R5W, Goshen Township;

Thence southerly with the east section line of said Section 1 to the NE corner of Section 6, T6N, R5W, Wayne Township;

Thence southerly with the east section lines of Sections 6, 5, 4 and 3 to a point on the east section line of Section 3, T6N, R5W, which point marks the intersection of said east section line of Section 3 with the Exchange Line established by The Youghiogheny and Ohio Coal Company and The Cambria Land Company on May 12, 1959;

Thence southeasterly with said Exchange Line to a point which marks the intersection of said Exchange Line with the east section line of Section 15, T5N, R4W, Washington Township;

Thence southerly with the east section lines of Sections 15, 14 and 13 to the NE corner of Section 18, T4N, R4W, Switzerland Township, Monroe County;

Thence westerly with the north section line of said Section 18 to the NW corner of said Section 18;

Thence southerly with the west section lines of Sections 18, 17 and 16 to the SW corner of Section 16, T4N, R4W;

Thence easterly with the south section lines of Sections 16 and 10 to the quarter section line of Section 10, T4N, R4W;

Thence southerly with the quarter section line of the adjoining Section 9 to the center of Section 9, T4N, R4W;

Thence westerly with the quarter section line of said Section 9, and continuing westerly along the quarter section lines of Sections 15, 21 and 27 to a point on the west section line of Section 27, T4N, R4W, Sunsbury Township;

Thence northerly with the west section lines of Sections 27, 28 and 29 to the SE corner of Section 36, T4N, R4W;

Thence westerly with the south section line of said Section 36 to the SW corner of said Section 36;

Thence northerly with the west section line of said Section 36 to the SE corner of Section 6, T5N, R5W, Sunsbury Township;

Thence westerly with the south section lines of Sections 6 and 12 to the SW corner of Section 12, T5N, R5W, the place of beginning.

Excluding from the above described area any coal lands not owned in fee by Consolidated Land Company.

Item 1 – Lease rights to parcel 57-22.1, 57-22.2, 57-23, 57-26, 57-28, 57-29, 57-32.1, 57-32.2, 57-35, 57-36.2, 57-57, 57-58, 57-59, 57-66, 57-76, 57-77, 57-95, 57-96, 57-106, 57-107, 57-120, Tract 26, Tract 30, Tract 31, Tract 32, Tract 34, Tract 35, Tract 36, Tract 42, Tract 50, Tract 55, Tract 61, Tract 64, Tract 67, Tract 72, Tract 81, Tract 82, Tract 154.

Together with the free and uninterrupted right of way into, upon and under said land at such points and in such manner as may be proper and necessary for the purpose of digging, mining, coking, draining, ventilating and carrying away said coal, etc. (hereby waving all surface damages or damages of any sort arising there from or from the removal of all of said coal), together with the privileges of mining and removing through said described premises other coal belonging to the Grantee, his heirs and assigns, or which may hereafter be acquired by said Grantee, his heirs and assigns.

Said Grantors, for themselves and their heirs and assigns, reserve the right to drill and operate through said coal for oil and gas.

It is understood and agreed between the parties hereto that the said Grantors and their heirs shall be paid at the rate of one-hundred dollars per acre for all surface land taken and used for mining said coal by said Grantee, his heirs or assigns.

Item 2 – Lease rights to parcel 57-18, Tract 115.

Together with the rights and privileges necessary and useful in the mining and removing of the said coal including the right of mining the same without leaving any support to the overlying strata and without liability for any injury which may result to the surface from the breaking of said strata the right of ventilation and drainage and of access to the mines for men and materials; the shafts or openings for such purposes, however to be in the ravines and waste places upon said land, and not nearer than 165.00 feet of the principal buildings thereon. Any surface ground required for building and operating switches and railroads, shafts, openings, machinery, ways, roads, houses for employees, etc., may also be taken but shall be paid for before being occupied at the rate of one-hundred and fifty dollars per acre, which payment shall thereupon entitle the Grantee, his heirs and assigns, to a deed in fee for the same. Also the right of mining, ventilating, draining and transporting the coal of other lands through the mines and openings in and upon the said land of the Grantors.

Item 3 – Lease rights to parcel 57-112, 57-124, Tract 93, Tract 94, Tract156.

Together with all the rights and privileges necessary and useful in the mining and removing of said coal including the right of mining the same without leaving any support for the overlying strata and without liability for any injury which may result to the surface form the breaking of said strata, the right of ventilation and drainage and generally freed clear and discharged of any servitude whatever to the overlying land or to

thence South 79 1/2 degrees East, 2 chains; thence South 48 3/4 degrees East, 1.50 chains; thence South 42 degrees East, 1.88 chains; thence South 82 1/2 degrees East, 2.35 chains; thence South 88 degrees East, 3.35 chains; thence North 67 1/4 degrees East, 3. chains; thence North 41 1/4 degrees East, 2.88 chains; thence North 56 1/4 degrees East, 2.24 chains; to the place of beginning, containing 59 acres, more or less; except one-half acre in the Northeast corner of the Southeast Quarter of said Section 24, it being the Christian Church Cemetery.

PARCEL THIRTY-FOUR - EBENEZER TAYLOR TRACT.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- Being all that part of the Southwest Quarter of the Southwest Quarter of Section 24, Township 4, Range 4, that lies South of a line running diagonally through said Quarter from the Northwest corner thereof to the Southeast corner thereof, containing 19.17 acres, more or less.

SECOND TRACT:- Also the Southeast Quarter of the Southeast Quarter of Section 30, Township 4, Range 4, containing 38 acres, more or less. CONTAINING in all 57.17 acres, more or less.

PARCEL THIRTY-FIVE - T. B. TAYLOR TRACTS.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- Being a part of the East half of the Southeast Quarter of Section 24, Township 4, Range 4, beginning for the same at the Southeast corner of said Section 24; thence with Section line North 87 1/2 degrees West, 10.17 chains to a stone, witness a black walnut tree 10 inches in diameter bearing North 27 1/2 degrees East, distance 8 links; thence North 2 1/2 degrees East, 29.70 chains to a stone in county road; thence with said road South 82 1/2 degrees East, 34 links; thence South 88 degrees East, 3.35 chains; thence North 67 degrees East, 3 chains; thence North 41 1/4 degrees East, 2.88 chains; thence North 56 1/4 degrees East, 2.24 chains to a stake in section line between Sections 18 and 24; thence with said Section line South 2 1/2 degrees West, 35.30 chains to the place of beginning, CONTAINING 32 acres.

SECOND TRACT:- Being a part of Section 24, Township 4, Range 4, and lying in a rectangular shape on the North boundary of said Section; beginning for the same on the North boundary line of said section at a corner of Samuel Freudiger; thence South with Freudiger's line 32 rods 10 links to a stone; thence East 133 rods and 8 links to a stone; thence North 32 rods 10 links to a stone thence West 133 rods 8 links to the place of beginning, CONTAINING 27 acres, more or less. CONTAINING in all 59 acres, more or less.

PARCEL THIRTY-SIX - SAMUEL FREUDIGER TRACTS.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- The East half of the Northeast Quarter of Section 24, Township 4, Range 4, and part of the West half of the Northeast Quarter of said Section, beginning for the same at the center of said section; thence running West 80 rods 10 links to a stone; thence North 155 rods 9 links to the county line to a stone; thence East 111 rods to a stone on the county line; thence South 8 3/4 degrees West, 77 rods 17 links; thence South 77 rods 17 links to a stone; thence West 30 rods 14 links to the place of beginning, CONTAINING 100.47 acres, more or less.

SECOND TRACT:- All the portion of the East half of the Southwest Quarter of Section 24, Township 4, Range 4, lying North of the center of the public highway, except a narrow strip off the North end of said tract 3 rods and three inches wide, which strip was heretofore deeded by said Monroe to said Freudiger, containing 3 acres, more or less, hereby intended to be conveyed.

THIRD TRACT:- Also all the following described tract, being a part of the West half of the

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the place of beginning, CONTAINING 54.97 acres. CONTAINING in all 135.31 acres, more or less.

PARCEL FORTY-ONE - HENRY HIGGINS TRACTS.

Situated in the Township of Switzerland, County of Monroe and State of Ohio.

The East half of the Northeast Quarter of Section 10, Township 4, Range 4, Containing 80.63 acres.

Also the South part of the East half of the Southeast Quarter of Section 11, Township 4, Range 4, beginning for the same at the Southeast corner of said half quarter; thence with the Section line South 87 1/4 degrees East, 17.80 chains to a stone; thence North 3° degrees West, 10.64 chains to a double ash tree; thence North 88 3/4 degrees West, 5.69 chains; thence North 42 1/4 degrees West, 7.68 chains to a stone in the county road; thence with said road North 5° degrees East, 6 chains; thence North 18 3/4 degrees East, 3 1/8 chains; thence North 5 1/4 degrees East, 1.80 chains; thence North 97 links to a stone in said road; thence North 87 1/4 degrees West, 9.10 chains to a stone in the line of the West side of said half Quarter; thence South 2 3/4 degrees West, 27.50 chains to the place of beginning, Containing 25 1/2 acres.

Also the East part of the Northwest Quarter of the Northeast Quarter of said Section 10, beginning for the same at the Northeast corner of the Northwest Quarter of the Northeast Quarter of said Section 10; thence West 80 rods; thence South 40 rods; thence East 20 rods; thence North 40 rods to the place of beginning, Containing 5 acres. CONTAINING in all 111.13 acres.

EXCEPTING therefrom the following described tract of land: The same being a part of the East half of the Northeast Quarter of Section 10, Township 4, Range 4, commencing in the road 25 1/2 rods from the Southeast corner of the above named tract or piece of land; thence running West to the county road leading past Jacob Tschappat's premises to Sunfish Creek, 27 rods; thence North 16 feet; thence East 27 rods; thence South 16 feet to the place of beginning, Containing 27 rods, more or less, keeping 110.96 acres, more or less.

PARCEL FORTY-TWO - MORGAN BAKER TRACTS.

Situated in the Township of Sunsbury, County of Monroe and State of Ohio.

FIRST TRACT:- Being a portion of the Southeast Quarter of Section 24, Township 4, Range 4, beginning for the same at a stone in the South boundary line of said Section, 9.05 chains East of the Southwest corner of said Quarter Section; thence North 2 1/4 degrees East, 29.41 chains to a stake in county road; thence with said road North 53 1/4 degrees East, 10 links; thence North 49 1/2 degrees East, 2.5 chains; thence 71 degrees East, 1.5 chains; thence North 65 degrees East, 1.85 chains; thence North 35 degrees East, 1.50; chains; thence North 49 degrees East, 6 chains; thence North 37 1/2 degrees East 9 chains; thence South 50 degrees East, 1.5 chains; thence South 44 1/2 degrees East, 3 chains; thence South 67 1/4 degrees East, 1.5 chains; thence South 80 degrees East, 1.80 chains; thence South 75 degrees East, 2 chains; thence South 48 3/4 degrees East 1.5 chains; thence South 82 degrees East, 1.80 chains; thence South 88 1/2 degrees East, 2.01 chains to a stake in county road, the corner of E. Taylor's land; thence South 2 1/2 degrees West, 29.70 chains to a stone in section line; thence North 88 degrees West, 20.96 chains to the place of beginning, Containing 68 acres.

SECOND TRACT:- The same being a portion of the West half of the Southeast quarter of Section 24, Township 4, Range 4, beginning for the same at the Southwest corner of said Quarter Section; thence with said Quarter Section line North 2 1/4 degrees East, 14.32 chains; thence South 88 degrees East, 9.08 chains; thence South 2 1/4 degrees West, 14.32 chains; thence North 88 degrees West 9.08 chains to the place of beginning, Containing 13 acres, more or less.

THIRD TRACT:- Being a portion of the West half of the Southeast Quarter of Section 24, Township 4, Range 4, beginning for the same in the section line running North and South through the center of said Section 24, 14 chains 32 links North from the Southwest corner of said Quarter Section; thence with said Quarter Section line North 2 1/4 degrees East, 14.83 chains to the center of the county road; thence with said road South 53 1/2 degrees East, 7 chains; thence South 83 degrees East, 3 1/2 chains; thence South 87 1/2 degrees East, 3.64 chains; thence North 68 3/4

21. Will operations conducted within this IBR affect land within three hundred feet of any public building, school, church, community or institutional building or public park?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights.

22. Will operations conducted within this IBR affect land within one hundred feet of a cemetery?

Yes ☐ No ☒ If "yes," submit proof of valid existing rights or appropriate authorization to relocate the cemetery.

23. Is this IBR application area within an area designated unsuitable for coal mining operations or under study for designation in an administrative proceeding?

Yes ☐ No ☒

If "yes," did the applicant make substantial legal and financial commitments in this IBR application area prior to January 4, 1977? Yes ☐ No ☐ If "yes," provide documentation supporting the assertion that the commitments were made prior to January 4, 1977.

24. In order to address the nature of cultural, historic and archeological resources, submit Archeology - Surface.

25. Describe the uses of the land existing at the time of the filing of this IBR application area and provide a map delineating the area and acreage of each land use.

The proposed I.B.R. area is composed of 1.3 acres of undeveloped land and 5.8 acres of cropland. See Addendum to I.B.R. Application, Item 25, Land Use Exhibit Map.

26. Describe the use of the land, including the creation of permanent impoundments, that is proposed to be made of the land following reclamation, including information regarding the utility and capacity of the reclaimed land to support a variety of alternative uses. Provide a map that delineates the area and acreage of each proposed land use, and submit assurance of maintenance for each permanent impoundment.

The use of the land following reclamation will be pasture land and ~~undeveloped~~ CROP land. See Addendum to I.B.R. Application, Item 25, Land Use Exhibit Map.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

ARCHEOLOGY - SURFACE

1. Applicant's Name **American Energy Corporation**

   Address **43521 Mayhugh Hill Road**

   City **Beallsville** State **Ohio** Zip **43716**

2. Contact Person **Jack A. Hamilton & Assoc., Inc.** Phone **740-968-4947**

3. Location and Acreage Information

   County **Monroe** Township **Sunsbury**

   Section **24** Lot(s) T-**4**, R-**4**

   USGS Quadrangle **Cameron** Acreage **7.1**

4. Application Map Attached: (area described in 3 above is to be outlined on the map)

5. Previous Disturbance:

   ☐ present; ☒ absent within application area only (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the application area prior to submittal. Examples include, but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and discing.)

   If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Application	Map Symbol

Revised 02/06
DNR-744-9039

IBR-0425-11

AEC 19558

6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: **82% (Cropland)**

Residential:

Mining:

Pasture:

Secondary Forest Growth:

Has area been clear cut logged? Yes ☐, No ☒
If "yes," indicate approximate date(s) of logging.

Other: **Undeveloped: 18%**

7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
None				

Revised 02/06
DNR-744-9039

IBR-0425-11

AEC 19559

8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the application area or adjacent areas)

Application area: **Phase I Survey performed in March 2006**

Adjacent areas:

9. **SHPO please send this form to:**
Division of Mineral Resources Management
Attn: Division Archeologist
2045 Morse Road, Building H-3
Columbus, Ohio 43229-6693

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(check appropriate space)

A. ☐ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

IBR-0425-11

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7 and 8 above.

Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

Known Historic and Prehistoric Sites

Site Name (#)	Type	Application Area	Adjacent Area

B. ☐ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer _____

SHPO # _____

Date _____

#408

Professional Archaeological Services Team

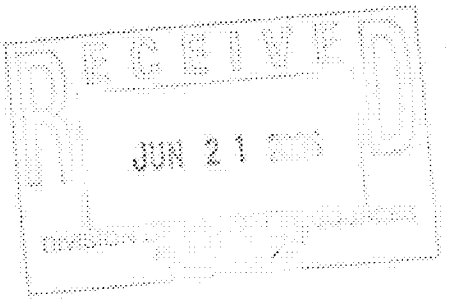
Phase I Cultural Resource Management Survey of an 2.8 ha (6.9 a.) Incidental Boundary Revision for Permit Application #D-0425 in Sunsbury Township, Monroe County, Ohio

Craig S. Keener
Benjamin Burcham

March 2008

"Interpreting the Past, Envisioning the Future"

Phase I Cultural Resource Management Survey of an 2.8 ha (6.9 a.) Incidental Boundary Revision for Permit Application #D-0425 in Sunsbury Township, Monroe County, Ohio



Craig S. Keener, Ph.D.

And

Benjamin Burcham
(Archaeological Research Consultants)

Prepared for:

Jack A. Hamilton & Associates Inc.
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Box 471
Flushing, Ohio 43977

Lead Agency: **Ohio Department of Natural Resources, Division of Mineral Resources Managment**

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Plain City, OH 43064

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Craig S. Keener P.I.

3.17.06

Abstract

Professional Archaeological Services Team conducted a Phase I Cultural Resource Management (CRM) survey of an 2.8 ha (6.9 a.) Incidental Boundary Revision for Permit Application (#D-0425) in Sunsbury Township, Monroe County, Ohio. The proposed survey was conducted in March under at the request of Jack A. Hamilton and Associates, Inc. The project area is related to a proposed haul road and substation/air shaft to be built by the American Energy Corporation. The survey recorded and evaluated the project under Section 106 guidelines.

The project area is an irregular shaped parcel located south of State Route 556 (SR 556). The project is situated on steep side of a ridgetop and on a portion of a small toe ridge/bench. The project is represented by overgrown former pasture land. Slope ranges from 11 to 25%. The project is located in the Unglaciated Appalachian Plateau. The test area contains two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam. Shovel testing in the testable portions of the project areaand visual inspection found no archaeological sites. Consequently, no further cultural resource work is recommended.

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Introduction

Professional Archaeological Services Team conducted a Phase I Cultural Resource Management (CRM) survey for a proposed 2.8 ha (6.9 a.) development in Sunsbury Township, Monroe County, Ohio (Figures 1-3). The project is located in Section 24. The proposed survey was conducted at the request of Jack Hamilton & Associates, Inc. The survey is investigating the project under Section 106 requirements as they pertain to cultural resources.

The proposed irregular shaped project involves an Incidental Boundary Revision of Permit Application #D-0425 for a proposed haul road and substation/air shaft to be built by the American Energy Corporation (Plates 1-4). The project is situated in a rural area mainly represented by woods, pasture, and open agricultural field areas. The project itself is represented by an overgrown former pasture land.

The project is represented by steep side slope of a ridgetop and a portion of a small toe ridge or bench. Slope ranges from 11 to 25%.

The project area is located in the Unglaciated Appalachian Plateau, on colluvium derived from local bedrock (Pavey et al. 1999). The project possesses two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam represent the project area. The project is located in a rural setting to the west of the Village of Bingham.

Due to the lack of surface visibility in the project subsurface test units and visual inspection were utilized. Dr. Craig Keener served as the principal investigator for this project, while the field testing was conducted by Benjamin Burcham, M.A. from Archaeological Research Consultants. The report and figures were completed by Dr. C. S. Keener, Benjamin Burcham, and Kevin Nye.

Background Investigation

An archival review was conducted for the project area and surrounding study area, which is defined as a 3.2 km (2 mi.) radius around the project area. The archival review is conducted in order to ascertain what archaeological and/or historical resources were previously located within or around the project area. This information can then be used to help formulate research questions/hypotheses and appropriate testing methodologies for the project area. The archival research enables investigators to identify potential regional patterns in archaeological assemblages or architectural styles and aids in determining a building or site's significance. Archival resources that were analyzed included historic atlases and maps, archaeological and architectural inventories, the National Register, and county histories.

Mills' (1914) atlas was consulted to determine if any prehistoric earthworks/mounds, villages or burials were reported in the project area or study radius.

Mills hand plotted most of these sites on county maps from the recollections of postmen or local individuals who knew or had heard of such sites in these vicinities. The vast majority of these sites were not field checked, so the accuracy of a given site's position or its actual existence is questionable unless field checked. Mills' atlas is a useful planning tool, however, since it is reliable in giving a researcher a general idea of where earthworks/mounds may be located. Analysis of the Monroe County Mills' maps showed no sites within or immediately adjacent to the project area.

The USGS *1961 (PR 1975) Woodsfield and 1960 (PR 1972) Cameron Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps, of the Ohio Archaeological Inventory (OAI), identified no archaeological sites within the project area. One archaeological site, 33BI344, was recorded in the study radius. This site is a 19th to 20th century historic scatter.

No CRM surveys overlap the project area. Two CRM surveys have occurred in the study radius (McDaniel 1988; Weller 2003). The Weller survey identified the archaeological site in the study radius.

Examination of the OHI files identified no recorded buildings in the project area.

Examination of the NRHP files failed to identify any buildings, sites or structures within or adjacent to the project area.

The Monroe County histories indicate no historical events have occurred at the test locations or that are associated with the historical property owners (Caldwell 1898; Hardesty 1882).

The 1898 *Caldwell's Atlas of Monroe County, Ohio* was analyzed and shows no structures lie in or adjacent to the project area (Caldwell 1898) (Figure 3). The property owner appears to be a Morgan Gates.

The 1905 *Woodsfield, Ohio 15 Minute Series (Topographic)* map (Figure 4), shows no structures inside or adjacent to the project.

The USGS *1961 (PR 1975) Woodsfield and 1960 (PR 1972) Cameron Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps shows no structures inside or adjacent to the project area (Figure 2).

Cultural History

The subsequent text is a summary of cultural developments that have occurred over time in the Ohio Region. This description of various cultural manifestations is presented in a broad and regional manner in order to provide an interpretative framework from which general research questions/hypotheses can be applied to a project area.

During the end of the Pleistocene the glacial retreat produced drastic changes in regional faunae and florae populations. Most of the so-called "megafauna" became extinct and broad regional vegetational changes occurred as the temperature increased (Shane 1994). The Native American groups to first inhabit the Ohio region had to cope with the rapidly changing subarctic climates. Some have argued (e.g., Martin and Klein 1984) that Paleoindian populations relied extensively or exclusively on hunting big game animals such as the mammoth, mastodon, and herd animals (e.g., long horned bison). Recent findings of a mastodon at the Burning Tree site in Licking County support this premise that Paleoindian populations were big game hunters (Fisher et al. 1994). However, while there is little doubt that Paleoindian populations hunted big game, this was not the only food resource option. Others have suggested that Paleoindian populations relied more extensively on smaller game animals and plant resources, employing a more balanced subsistence strategy (Bamforth 1988; Lepper 1988). Consequently, Paleoindian populations in Ohio have been viewed as highly mobile/nomadic and exhibiting four general settlement types: 1) food procurement and processing, 2) large workshops; 3) small workshops; and 4) flint processing. Sites are typically indicative of transitory behavior and reflect seasonal use of available animal and plant resources.

The artifact assemblage of the Paleoindian Period (14,000 B.C. to 8,000 B.C.) is characterized by the Clovis projectile point types, steep edged scrapers, blades, and utilized flakes and tools (Justice 1987; Tankersley 1994). Although not well documented for eastern North American, bone and wood tools were presumably commonly used as well. The Clovis point is a fluted lanceolate with a ground concave base and parallel or slightly convex sides. Unfluted Plainview types are also common to this period, but infrequently reported in Ohio.

Most reported Paleoindian sites in Ohio are surface finds recovered from elevated rises, hill/ridge tops, or along terraces within valley floors (Prufer and Baby 1963). Recent findings in the past two decades have resulted in additional information on site composition. Along the Ohio River, excavations at the Manning site revealed three distinct Late Paleoindian occupations that exhibited tool clusters and possible residential and/or activity areas (Lepper 1994). Evidence of hunting and/or hunting locations have been found near remnant glacial ponds, bogs, or along river valleys (e.g., Burning Tree Mastodon, Nobles Pond, and Sandy Springs) (Dancey 1994). Research on quarries and flint acquisition in Central Muskingum River valley (Lepper 1986; Tankersley 1990) and the Midwest as a whole has produced new information on land use patterns and workshop sites. These sites and/or investigations have produced significant information,

nonetheless, the picture of the Paleoindian Period within Ohio is incomplete and the scarcity of recorded sites make any newly identified Paleoindian site of potential interest.

Cultural developments in the Archaic Period reflect the impact of post-Pleistocene climatic changes in which moderate and temperate climates replaced the subarctic conditions of the glacial period. A wider range of natural resources became available, and based on the presence of ground stone tools, it appears that plant foods became a significant part of subsistence. Populations appear to become less transitory, with sub-regional lithic assemblages composed of greater percentages of local flint resources. The Archaic spans a broad time period and is broken up into three stages: Late, Middle, and Early.

The Early Archaic Period (8,000-6,000 B. C.) is marked by a greater variety of tools, in particular projectile points. Thebes, Kirk, and Palmer point types are just a few of many new variations being created during this period (Justice 1987). Most of these points are basally notched, bifurcates, or corner notched, and many exhibit ground bases, beveled blades, and/or serrated edges. Early Archaic sites are more commonly found on outwash terraces within the river and stream valleys of the Till Plains and Allegheny Plateau. The predominance of projectile type tools may indicate a greater reliance on hunting strategies, however, seasonal exploitation of plant foods and use of river biomes certainly were important aspects of subsistence. Other tools that characterize this period include end scrapers, utilized flakes, and some ground stone tools.

Little is known about the Middle Archaic Period (6000-3000 B. C.) in Ohio. Few undisturbed sites have been recorded. The climate continued to change during this period and the majority of Middle Archaic sites are found on terraces and floodplains of stream valleys (Genheimer 1980). Projectile points of this era are generally represented by heavy stemmed or side notched varieties. There is also an apparent increase in ground stone tools such as atlatl bannerstones (both cylindrical and winged), slate pendants, and full grooved axes.

The Late Archaic (3,000-1,000 B.C.) represents a period of diversification and localization of pre-Woodland populations (Dragoo 1976; Pratt 1981). Tool assemblages are typically composed of flint from nearby (local) outcrops. A wide array of drills, scrapers, knives, and groundstone items are associated with this assemblage. Projectile points of this period are generally crude, stemmed types (e.g., McWhinney), but include many varieties. Burial goods, such as bannerstones and other slate goods, and flint items suggest the development of more elaborate ceremonial customs that would continue to grow in the Woodland period. The presence of some exotic goods, such as flint from distant outcrops suggests the development of long distance trade. Sites are usually large in size and generally reflect continual use of an area. The variety of site types is indicative of a specialization to seasonal exploitation of localized environments and an increase in reliance on plant foods that would carry over into the Woodland Period, resulting in the domestication of several wild species. Site locations along terraces suggest that during the spring and summer aquatic and plant resources in river valleys were heavily utilized, while during the fall and winter the uplands were focused upon for

nut harvest (e.g., hickory and walnut) and wild game hunting. Vickery (1980) has suggested that two types of settlements occurred during this period, the local base camp affiliated with a restricted territory, and larger scale camps indicative of the use of regional resources.

The Early Woodland Period (1,000 B.C. to 100 B.C.) represents a continuation and elaboration of cultural manifestations developed in the Late Archaic. The Early Woodland Period is set apart from the Archaic by the intensification of its mortuary practices with the construction of burial mounds and extensive exchange networks for burial/ritual goods, use of ceramic vessels, and the use of indigenous or non-indigenous domesticated cultigens such as chenopodium and sunflower (Dragoo 1976). The introduction of pottery is important because is suggests the greater reliance on food processing and storage (e.g., for nuts), and may indicate a greater emphasis on gathering of plant foods versus hunting. This change also marks a shift towards the development of cultivation and later agriculture which would occur in the Late Woodland. Pottery first appears in the Ohio Valley between 1,000 to 100 B.C. and is characterized as plain surfaced, thick, grit tempered and typically possessing a flat based and conical vessel form (e.g., Fayette Thick type).

Early Woodland settlements are characterized by small hamlet/village sites generally located on low terraces and floodplains of stream valleys. Little work has been conducted at these sites. Evidence of circular structures has been found at several sites, suggesting semi-permanence of the inhabitations. Projectile points found at Early Woodland sites are generally large ovate-based or stemmed varieties (Justice 1987). The mortuary complex of Adena sites is characterized by conical mounds generally small in size. Mounds usually are found isolated but may be accompanied by surrounding enclosures. Burial mounds are typically found along high terrace or bluffs overlooking stream valleys of the Ohio River. Examples of large Early Woodland mounds include the the Sentinel Mound (Harrison County), the Miamisburg Mound (Montgomery County), the Adena Mound (Ross County), and the Cemetery Mound (Washington County). Burials are often, but not always, placed in the center of the mound floors. Some burials are lined with logs, and often contain exotic goods such as high quality flint projectile points, copper bead necklaces, and slate and ground stone items.

The Middle Woodland period (100 B.C. to A.D. 400) exhibited a continuity of Early Woodland traits with similar habitation and mortuary site locations along major stream valleys. Subsistence strategies continued to rely heavily on food supplies attained from hunting and gathering (e.g., nut varieties, deer, berries, fish, seeds, and small mammals). There is however, an apparent greater reliance on seed food such as chenopodium, sunflower, and maygrass, known as the Eastern Agricultural Complex (Wymer 1996). Corn also makes it first appearance during this period, but only in small quantities, indicating it was not a major part of the diet.

Settlement patterns of the Middle Woodland appear to center around small hamlets, which in turn appear to be grouped near earthwork complexes (Pacheco 1996). Information on "hamlets" is still formative, however, excavations at such notable sites as

Jennison Guard (Blosser 1996), Murphy (Dancey 1991, 1992) and Twin Mounds (Fisher 1969, 1970a) have found that they are located in larger stream valleys and are the focus of many specialized activities (e.g., bladelet manufacture). Secondary encampments have been found in the uplands, indicating exploitation of seasonal plant (e.g., nuts) or animal (e.g., deer) resources. Ceremonial complexes were also the scene of possible communal activities, and rectangular structures and workshop areas have been found at many of the sites (e.g., Seip and Ft. Ancient [Connolly 1996]). However, no clear evidence of villages or hamlets have been found within the earthwork complexes themselves (Dancey 1996; Prufer 1965).

A distinction from the Early Woodland is the development of extensive and elaborate geometric earthwork complexes. Most archaeological work has been conducted upon these earthworks and associated mounds (e.g., Shetrone 1926). Some of the more notable Middle Woodland complexes include Hopewell, Mound City, High Banks, Newark, Seip, Harness, Stubbs, and Marietta. Hill top enclosures tend to be more common in the southwest Ohio area and are exemplified by such sites as Fort Ancient, Pollock, Fort Hill, and Miami Fort. From these sites excavations have revealed an elaborate mortuary-oriented culture, with evidence of preburial and postburial activities, and concentrated and large amounts of exotic grave goods, indicating well established trade connections or long distance acquisition. While Middle Woodland populations have been viewed as egalitarian the focus of exotic goods in the earthwork complexes indicates that some individuals did possess higher status.

The artifact assemblage of the Middle Woodland is dependent on its context. Exotic trade goods are generally concentrated in mortuary sites, while more utilitarian artifacts such as ceramics and lithic workshops, are located at hamlets or encampments. Middle Woodland ceramics are typically manufactured with grit temper and possess cordmarked or plain exterior surfaces. Some ceramics are decorated with stamped, punctated or zoned designs, with a few rare items containing iconography (Greber and Ruhl 1989). Vessels generally have thinner walls than the Early Woodland ceramics, and are globular in form. Lithic artifacts include bladelets, polyhedral cores, expanding base projectile points (e.g., Snyder type), drills, and a variety of ground stone tools. The mortuary type items, also found in workshops, include materials found over long distances from several regions of North America. These include chlorite and mica from the Southeast, in the southern Appalachians; marine shell, alligator and shark teeth, and turtle shell from the Gulf Coast; obsidian from the Yellowstone area in the Rockies; copper from the Great Lakes; silver from Ontario; meteoric iron; and non-local fine quality flint from North Dakota (Knife River), and southeast Indiana (Harrison County [Indiana Hornstone] flint). Other items made from non-local or local material include platform pipes, copper axes/adzes and plates, copper skull caps, copper and silver earspools, large predatory animal canine teeth, and leaf shaped flint cache blades (Griffin 1978).

The Late Woodland period (A.D. 400 to A.D. 900) is characterized by the continuation of some Middle Woodland traits such as similar tool complexes (e.g., Chesser type points, ceramic manufacture, and continuation of exotic trade goods in some

areas). However, the large ceremonial complexes of the Middle Woodland do not occur in the Late Woodland, changing instead to rather small burial mounds and/or stonebox graves. Distinct subregional expressions also appear during this period, such as Cole and Newtown (Baby and Potter 1965; Prufer and McKenzie 1966). Ceramic assemblages in southern Ohio are typically cordmarked, and either contain chert or limestone tempering agents (e.g., Peters and Chesser series). In central Ohio ceramics are generally cordmarked and grit tempered (e.g., Cole series). The lithic assemblage is characterized by Chesser-side notched points, Raccoon notched, triangular side-notched points, and triangular points (Justice 1987). Ground stone tools such as three quarter groove axes, pestles, and metates are common. There is also an increase of representative bone tool artifacts (e.g., awls, punches, etc.) during this period (e.g., Philo site).

Settlement patterns change during the Late Woodland, with populations aggregating into village sites typically located within major river valleys along the base of bluffs or terraces. The amalgamation of people into villages appears to correspond with the introduction of corn, bean, and squash agriculture. The greater reliance on cultivated plants required a larger work force for planting and harvesting, making a permanent settlement more advantageous. The advent of agriculture also corresponds with an apparent increase or threat of warfare. Large groupings of people provided better defensive capabilities to a community. Towards the end of the Late Woodland, villages began to be placed on more easily defendable terrain and palisades began to be constructed. It also appears that upland locations were selected for temporary encampments in the autumn and winter in order to exploit seasonal food resources.

The Mississippian/Late Prehistoric period (A.D. 900 to 1685) represents a continuation of most of the cultural manifestations that occurred in the Late Woodland. Settlements are still found in river valleys, although villages tend to be situated on more highly defendable terrain such as bluff or terrace edges. They also tend to be larger, and many are ringed by defensive palisades, suggesting that warfare was a factor in site selection. There is an increased reliance on corn agriculture and consequently, populations become more sedentary. Ceramic assemblages contain both grit and shell tempered varieties. Lithic assemblages are dominated by triangular points and knives. There is also extensive use of bone and shell for tools or ceremonial items. Some decorative motifs on shell artifacts or ceramics suggest influence from both southeastern and Mississippian cultures (e.g., weeping eye motif at Ft. Ancient sites) (Griffin 1978). Several distinct sub-regional groups (e.g., Ft. Ancient, Monongehela, Whittlesey, and Western Basin) develop across Ohio, with each containing unique developmental phases.

The project area falls within an area affiliated with Monongehela assemblages.

The Historic Period begins in the Ohio region during the early 1680s with recorded accounts of Iroquois war parties driving out indigenous tribes of the area. Little historical information is known about the indigenous seventeenth century inhabitants of the Ohio region or the specifics of the Iroquois intrusion into this area, except that the Iroquois were successful in dispersing or defeating several tribes from this region, including the Shawnee, Erie, and Fire Nation (Keener 1998). Eastern Ohio remained

vacant between 1685 and 1720 and served as a hunting area for the Iroquois and various tribes (Ottawa, Mississaugi, and Wyandot) located near Detroit (O'Callaghan 1856; Wheeler-Voegelin 1974).

The first recorded evidence of resettlement of the eastern Ohio region is reported in the 1720s as Iroquois, Delaware, and Shawnee are reported living along the Upper Ohio River and its tributaries. No major villages were established in Monroe County, except for temporary encampments along the Ohio River and creek valleys. The county was mainly used as a hunting area until the early 1800s (Tanner 1987; Wheeler-Voegelin 1974). Eastern Ohio was the scene for many conflicts between Euroamericans and Indians during the second half of the eighteenth century. Several skirmishes occurred between the Indians and early American settlers during the 1770s, particularly along Captina Creek during Lord Dunmore's War. After the Greenville Treaty of 1795, all Indian claims to this area were relinquished.

Monroe County was organized in 1813. One of the earliest settlers was Philip Witten who arrived in the county in 1791. Most of the early settlements were along the Ohio River at the mouths of Sunfish, Clear Fork, and Opposum Creeks and the Little Muskingum River. Most of the early settlers were farmers and agriculture was the dominant economy in the nineteenth century. In 1819 a number of German and Swiss families settled in the county and today the county has a sizable Amish population. Agricultural products of the county include wheat, corn, oats, potatoes, livestock, and cheese production (Hardesty 1882).

Indian trails and the Ohio River served as major transportation routes during the early 1800s. The first railroads built in the county stimulated agricultural production and coal mining. Woodsfield, is the county seat. Coal mining and gas/oil production are important industries.

Information about Sunsbury township was limited. The township was organized in 1819. Early settlers arrived in the township as early as 1809. The Village of Beallsville, is the economical focal point of the township. The town has several mercantile stores that serve the local populace (Hardesty 1882).

Environmental Section

Physiography

Monroe County is situated within the Unglaciated Allegheny Plateau. The topography is represented by steep and heavily dissected ridges. Underlying bedrock is represented by limestone, sandstone, shale, coal, iron ore, and clay, of the Pennsylvanian and Permian systems. Major drainages of the county include Clear Fork Creek, Sun Fish Creek, Captina Creek, Opossum Creek, the Little Muskingum River, and the Ohio River (Pavey et al. 1999; USDA, SCS 1974).

The project area is located in the north central portion of Monroe County. The elevation within the project ranges from 365.7 m to 384 m (1200' to 1260') The project area is represented by steep sideslope of a ridgetop and portion of toe ridge/bench.

Soils

Soil types in the project area are important, for they can help determine the likelihood/potential for cultural activities or archaeological sites. Soil types also help us understand the process of taphonomy and how sites are preserved or changed from depositional factors, erosion, or soil acidity. A total of five soil types are located within the two test areas and listed below:

Guernsey-Westmoreland (GwD2) silt loam, 12 to 18% slope, moderately eroded
Zanesville (ZnC) silt loam, 6-12% slope

Most of these soils are moderately to very well drained. Steep slope (>15%), and in particular eroded soils, are a major concern (USDA, SCS 1974).

Fauna

The clearance of most of Ohio's presettlement forest resulted in the extinction of many species which could have been used by prehistoric populations. The most useful species found in archaeological assemblages of prehistoric and early Euroamerican populations include deer, elk, bison, black bear, wolf, beaver, turkey, passenger pigeon, mountain lion, ruffed grouse, cottontail rabbit, squirrel, water fowl, fish, and mussels. This variety of faunal resources supplied the seasonal food needs of indigenous populations and provided raw materials for tools (e.g., bone awls, shell hoes) and/or ceremonial artifacts (e.g., canine teeth, deer antler skull caps) (Cleland 1966).

Flora

Presettlement vegetational patterns in Ohio have changed dramatically with the arrival of Euroamerican populations because of the impact of agriculture and industrial and urban developments. Large swaths of indigenous forests were cut down for use as lumber, fuel for the coal and iron industries, a source for heating (e.g., fire), and to clear fields for agricultural uses. Marshes, wetlands and prairies were also altered by post settlement populations with most wet areas having been drained for agriculture, and prairies replaced by cultivated fields. The presettlement vegetational patterns of Ohio have been classified by Gordon (1966). In eastern Ohio forests were once dominated by mixed mesophytic segregates such as broad leaved deciduous species and evergreen varieties. The project area was once dominated by ash, elm, beech, maple, and walnut. Nut bearing varieties provided a seasonal source of food for prehistoric populations.

Formulation of a Research Design

The development of the research design incorporates information obtained from the archival review, culture history, and environmental context, which are used to identify objectives and questions to apply when testing a designated project area. The information obtained from the local and regional area help in the assessment of any identified building/site when determining its potential eligibility for nomination to the NRHP. A summary of the background findings and how this information may relate to the testing and evaluation of the project is provided below.

The project area is situated in the Unglaciated Appalachian Plateau and is represented by steep sideslope of a ridgetop and a portion of a toe ridge/bench. Slope in the project ranges from 11 to 25%. The project is an overgrown former pasture. Two soil types: Guernsey-Westermoreland (GwD2) and Zanesville (ZnC) silt loam represent the project (USDA, SCS 1974). Eroded soils and steep slope are a concern for the project.

The archival review indicated that no previously recorded archaeological sites lie in the project area. One historic site has been found in the study radius. In the greater regional area ridgetop landforms have typically been found to contain prehistoric sites. Historic atlases/maps do no show any structures in the project so consequently a residential deposit (e.g. Ball 1984; South 1977) is not expected.

Methodological Approach

The project area was tested using subsurface testing, and visual inspection. The testing methodologies are described below. Sites, if identified, are inventoried by Field Site #s (FS #). Each sequential site identified follows in numerical order and is recorded within the field notes and field maps and discussed accordingly within this report.

Subsurface testing will involve the excavation of a series of shovel test units within areas with <50% surface visibility. Shovel test units will be placed in a 15 m by 15 m (50' by 50') square grid . If a shovel test unit is identified as positive, four radial shovel test units will be excavated in the four cardinal directions from the positive test unit (within the project boundaries). Radial shovel test units will be spaced 7.5 m (25') from the positive shovel test unit. Radial shovel test units are used to help identify site boundaries within the project area for any site identified. Shovel test units and radial shovel test units are .25 m2 (2.69'2) in size and are excavated by natural stratigraphic layers to a depth of approximately 5 cm (2") below subsoil. The soil matrix from each stratigraphic level will be dry screened through .6 cm (.25") hardware mesh. Any recovered artifacts are provenienced and placed in bags. Any features found on the subsoil floor of a shovel test unit will be drawn to scale with a plan view and photographed. A representative photo of the floor of a shovel test unit will be provided for the project area to exhibit a typical shovel test unit encountered during the survey.

Excavated areas, which reveal complete disturbance to the subsoil, are labeled shovel probes and possess 30 cm diameters. Those test locations, which are deemed shovel probes, are not screened and are back filled when determined to be disturbed. Areas which exhibit wet soils (with standing water or saturated soil) or disturbance at the surface will be labeled as such on the fieldwork map, and will not be excavated (unless noted by the field supervisor).

Visual inspection will be conducted at all test areas. This methodology is utilized in order to locate any unknown outbuildings, ruins, springs, dumps, or testable portions of the project. Any sites identified during visual inspection will be assigned a field site number and tested as deemed necessary by the field supervisor and/or principal investigator. Any testable landform identified will be subjected to testing methodologies and/or a testing grid which will cover the landform adequately.

Artifact Analysis

Prehistoric and historic artifacts recovered in the field are washed and then inventoried for report purposes. Prehistoric artifacts are inventoried according to physical appearance (e.g., core, primary decortication flake, secondary thinning flake, granite hammerstone, bone awl, grit tempered pottery, etc.). The material from which artifacts are made from is identified in the inventory, such as flint type. Reference books (e.g., Justice 1987) are used when analyzing diagnostic artifacts. Specific studies on identified prehistoric assemblages are dependent upon what hypotheses or questions have been developed, if any, for the project area and the make-up of the assemblage. If a study on distribution or physical attributes of prehistoric artifacts is conducted, an entire section of the report is devoted to this endeavor. Prehistoric artifacts from each site are listed following the description of the site from which they were recovered or listed in a table in the back of the report. How the prehistoric assemblage was categorized into individual artifact classes is listed below. Attributes of flakes and tools is based on a number of references (e.g. Andrefsky 1994, 1998; Crabtree 1982; Kooyman 2000; Odell 2004, Pecora 2002), coursework and experience. Most of these artifact classes are commonly used by other CRM firms. While similar terms may be used by different companies it should be noted that classification of lithic debris is very subjective. In more advanced studies (e.g. Phase II or III) PAST may use a more refined technique that has been advocated by Pecora (2002).

Lithic Classification

Flake/Debitage

Primary Decortication. These flakes exhibit 100% cortex on the dorsal surface. Typically, but not always these flakes are large and thick and representative of the early stage of raw material reduction.

Secondary Decortication: Flakes have less than 100% of the dorsal surface represented by cortex. Like primary decortication flakes this flake debris represents the initial stage of material reduction.

Primary Flakes: Typically exhibit a triangular platform and have a bulb of percussion at proximal end. These flakes are generally longer than they are wide. These flakes are typically associated with the shaping of cores and/or tool production.

Secondary Flakes: These flakes tend to lack a bulb of percussion and are smaller in size, slightly curved, and thinner than primary flakes. They can possess multidirectional or parallel ventral surface scars. These flakes are reflective of an intermediate to late stage biface/tool production.

Finishing Flakes/Resharpening: These flakes represent the late/final stages of biface production related to sharpening and/or trimming of a biface. They are very small in size, thin and slightly curved in cross-section and typically possess numerous multi-directional scars on the ventral surface.

Flake Fragments/Broken Flakes: These are flakes which lack a distinguishable platform/proximal end.

Shatter/Blocky Irregular: These flake fragments are angular or square shaped pieces that have no distinguishable ventral or dorsal sides. These pieces are a related byproduct of raw material reduction and/or biface manufacture.

The physical attributes of debitage, such as flint type and whether a flake has been heat treated are listed for artifacts recovered at each site. If nearby flint resources can be identified through the use of identified quarry/outcrops (Stout and Schoenlaub 1945) this will be noted.

Tools

Cores: Prepared nodules of flint. These can include systematic reduction cores, multi- directional reduction, and bipolar core. Cores are made for the purpose of obtaining flakes or to be further modified into other tools.

Unifaces: Tools that have a working edge on one side only. Scrapers are commonly found as unifaces.

Bifaces: Tools that have a working edge on both sides. These can come in many forms such as blanks and preforms and typically indicate a stop in the

reduction stage that may be related to the creation of items suitable for transport. These pieces are then worked into a more formal tool at a later time.

Modified Flakes: Includes retouched flakes, and utilized flakes. Typically the flake is used for scraping or cutting.

Ground Stone Tools: Includes ground stone tools such as stone axes, adzes, celts, hammerstones, bannerstones, and any other shaped pieces.

Fire Cracked Rock (FCR): FCR is rock cracked by intense heat associated with thermal activities. Not all FCR has to be cracked however to be termed FCR. Some stones in feature context show signs of heat alteration with color change (e.g. blackening or reddening). FCR in Ohio is made of a number of materials associated with igneous (e.g. granite), metamorphic (e.g. gneiss), and sedimentary rocks (sandstone, limestone, etc.). In Phase I surveys these items are counted but not curated. In more advanced studies (Phase II and III) the FCR is counted, weighed and may be size graded depending upon the research questions.

Historic artifacts are inventoried using a modified version of Stanley South's (1977) artifact categorization system, which places artifacts into the following functional groups: Kitchen, Architectural/Residential, Arms, Activities, and Personal. Each of these groups has several subcategories which allows for variation, and those artifacts that do not fit in a particular group are placed in a Miscellaneous category. Various ceramic/historic artifact source books are used when determining identity, age, function, and possible economic status of an historic assemblage. These books include: Cushion (1980), Dalrymple (1989), Fitting (1970), Hume (1991), Kovel and Kovel (1995 [1953]), Majewski and O'Brien (1987), Manson and Snyder (1997), McConnell (1990), Miller (1980), Miller et al. (1991), Newman (1970), Ramsay (1976), Sussman (1977, 1997), and Turnbaugh (1985).

Curation

Following the acceptance and clearance of the report, the property owner from which an archaeological site was identified is notified that artifacts were found. A written notice indicating that they may claim ownership of the artifacts or donate them to a curational facility is then sent to the property owner. Professional Archaeological Services Team (PAST) encourages property owners to donate recovered archaeological material because of the importance in the interpretation of the archaeological record and for the present and future research potential by fellow archaeologists. A copy of the property owner's decision is maintained at the office of PAST. If donation is requested, artifacts, field notes, and photographic negatives will be donated to the Ohio Historical Society's Curation Facility. If donation is denied and the artifacts are claimed by the property owner, PAST will house field notes and photographic negatives, and return all recovered artifacts to the property owner.

Field Work

The field work portion of the Phase I CRM survey was conducted in March of 2006. One datum was used for the project area (Figures 2 and 5; Plates 1-4). The field investigations consisted of visual inspection as well as shovel test unit excavation. The proposed haul road (Figure 5) is located upon the slope of a generally north-south oriented ridge top. The degree of slope varied in this area between approximately 15-25 degrees. The entire length of the haul road was visually inspected. Some light disturbances were located in the north portion of the haul road, which may be related to the fanning out of excavated soils related to the modern house structure that is located to the east of the entrance of the haul road. There were four shovel test units excavated at the southern end of the proposed haul road. In this location the slope lessened to between 11-15 degrees, and protruded out like a narrow bench. A row of four shovel test units were excavated in this area. The average depth of the excavated shovel test units was 22 cm (8.6"). No cultural remains were identified.

At the southern terminus of the haul road was a larger area approximately 152 m (500') by 91 m (300'). The larger bench area was investigated through the excavation of shovel test units at 15 m (50') intervals (Figure 5). The general slope was approximately 11 degrees across the top of this bench and the landform generally sloped to the west. A total of 68 shovel test units were excavated in this portion of the project area, three of which were inadvertently excavated outside of the project area. These shovel test units had an average depth of 23 cm (9.1"). A typical test unit is shown on Plate 5. The excavated solum varied from a loose sandy loam to a dense clay. No cultural remains were identified in any of the excavated shovel test units.

Summary of the Investigations

The project area was investigated through visual inspection, and the excavation of shovel test units at 15 m (50') intervals. Visual inspection identified two testable locations in the project area. No archaeological sites were encountered in the project area. It is felt that the testing which was conducted during this investigation was adequate for the identification of archaeological resources, which could have been located within the project area.

Conclusions and Recommendations

Professional Archaeological Services Team completed a Phase I Cultural Resource Management survey in Sunsbury Township, Monroe County, Ohio. The survey was conducted at the request of Jack A. Hamilton & Associates, Inc. The project, a 2.8 ha (6.9 a.) parcel of land, is an Incidental Boundary Revision for Permit Area #D-0425. Subsurface test units and visual inspection were employed to analyze the project. The survey found no archaeological sites or historic structures within the project area.

To conclude, **no further archaeological work is recommended for the project area.**

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Figures

STATE OF OHIO
George V. Voinovich, Governor
DEPARTMENT OF NATURAL RESOURCES
Donald C. Anderson, Director
DIVISION OF GEOLOGICAL SURVEY
Thomas M. Berg, Chief

Figure 1. Map of Ohio Political Boundaries showing the project area.

This map is intended to show the majority of townships that currently exist or have existed in the past. Especially in urban areas, all or parts of some townships may have been incorporated into cities or villages. Boundaries are based primarily on U.S. Geological Survey and county engineers' maps.

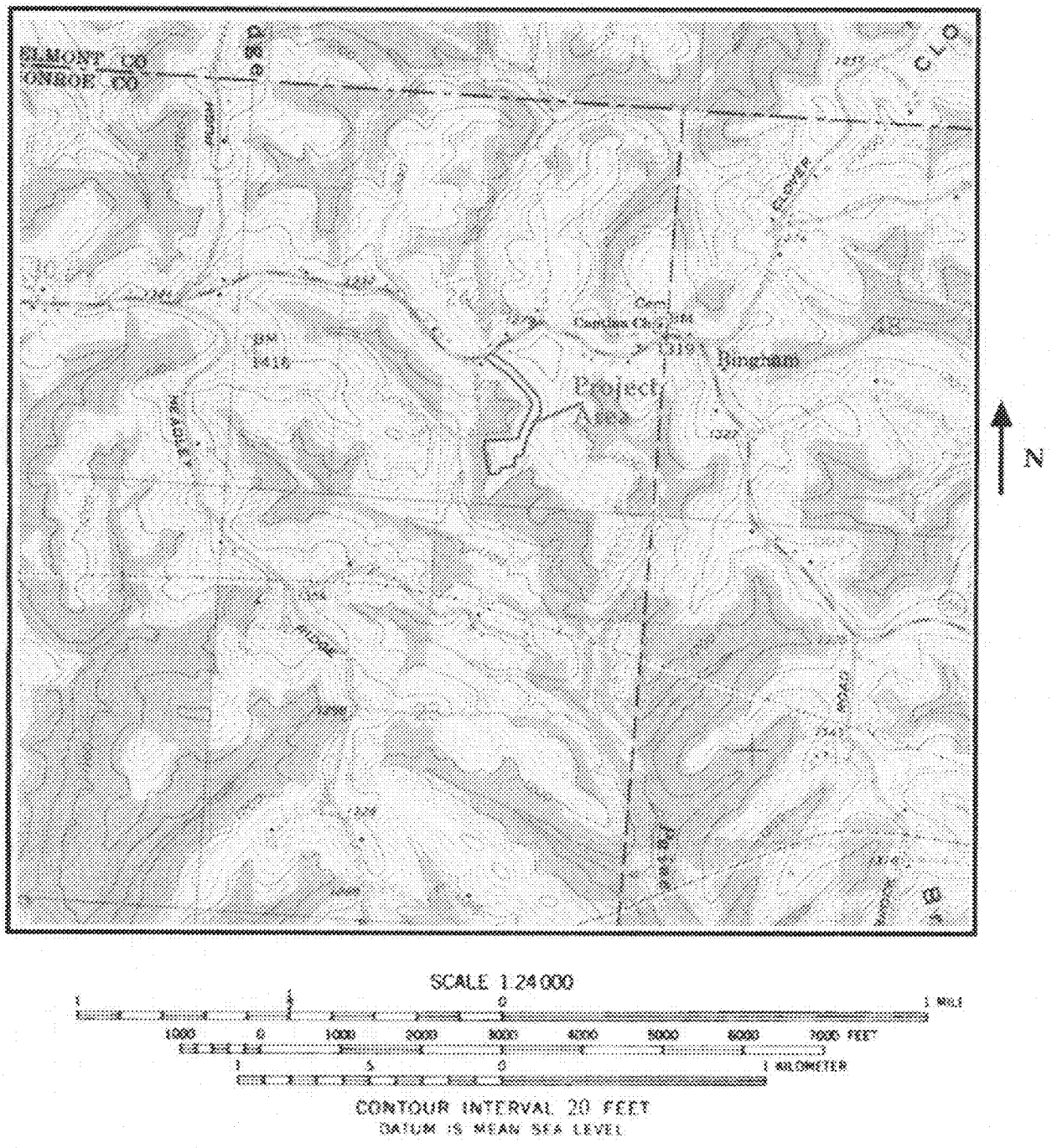


Figure 2. Portions of the USGS *1960 (PR 1972) Cameron and 1961 Woodsfield Quadrangles, Ohio, 7.5 Minute Series (Topographic)* maps showing the location of the project area.

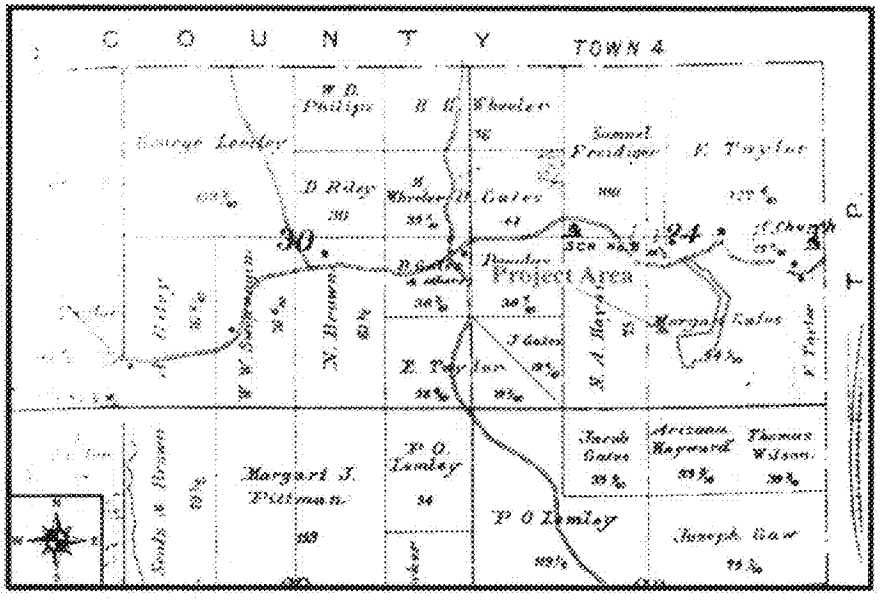


Figure 3. Portion of 1898 *Caldwell's Atlas of Monroe County, Ohio* (Caldwell 1898) showing the estimated location of the project area.

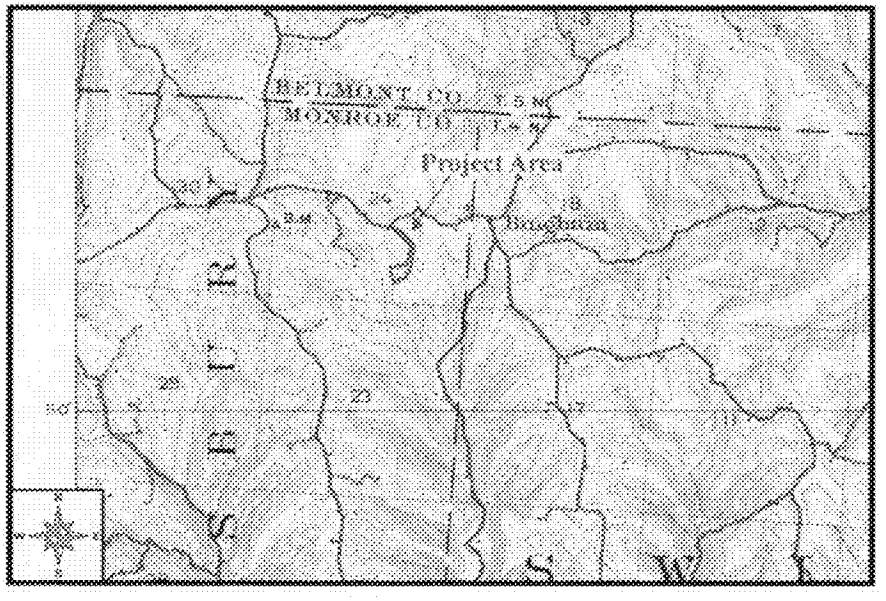


Figure 4. Portion of the 1905 *Clarington, Ohio 15 Minute Series (Topographic)* map showing the general location the project area.

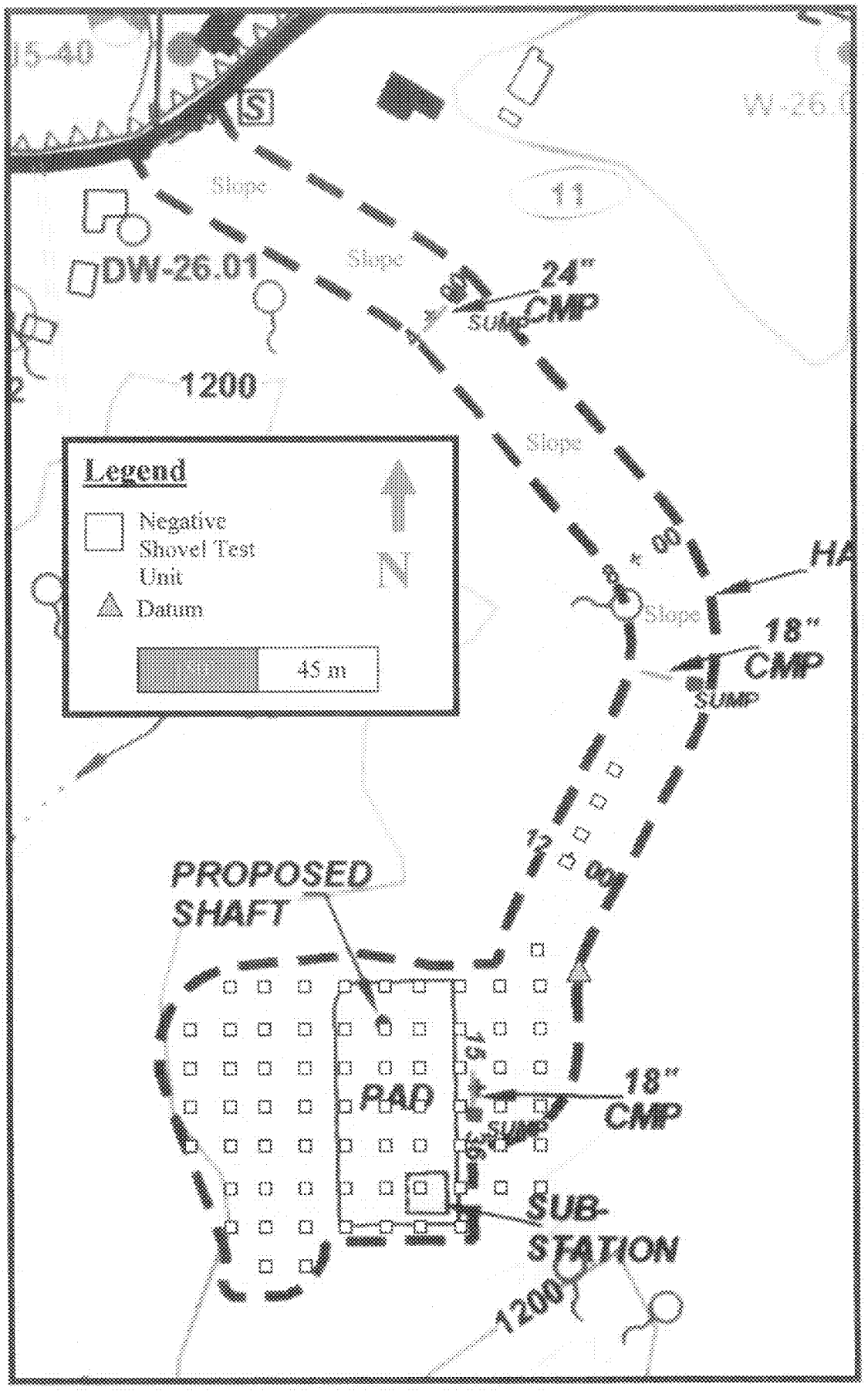


Figure 5. Field work schematic showing the location of shovel test units, datum location, sloped areas, and the project area boundary. (Shovel test units are not to scale)

Plates

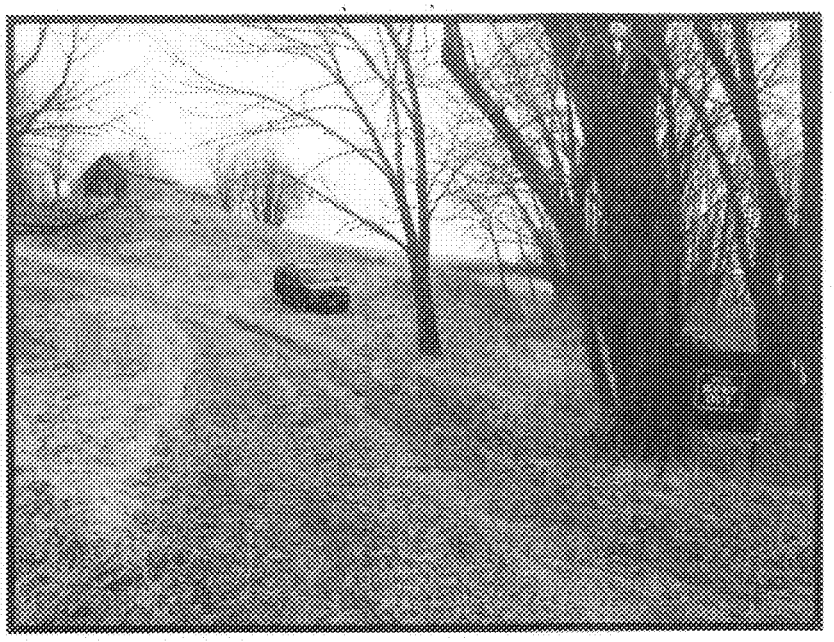


Plate 1. View of the project area facing southeast from State Route 553 (the northern end of the haul road).

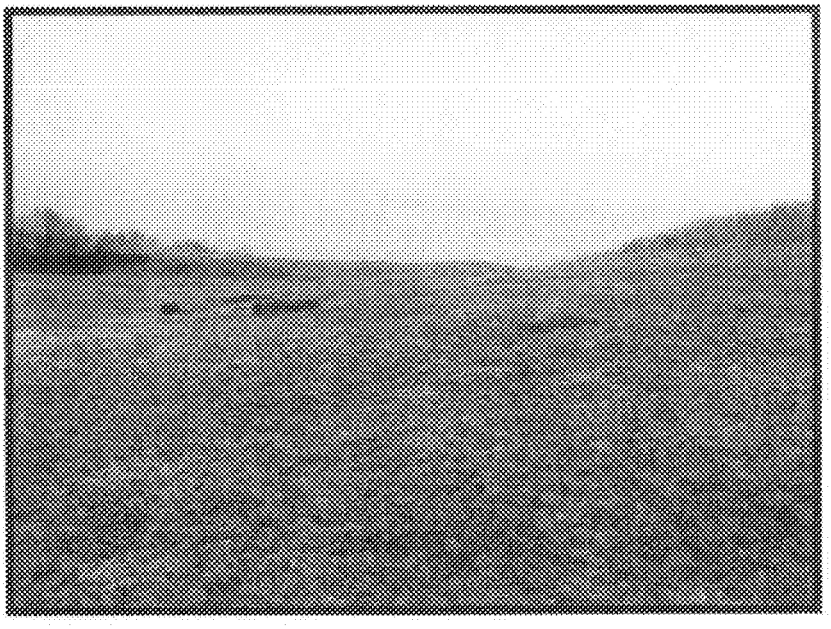


Plate 2. View of the southern portion of the haul road corridor, view facing north from approximately station 13+00.

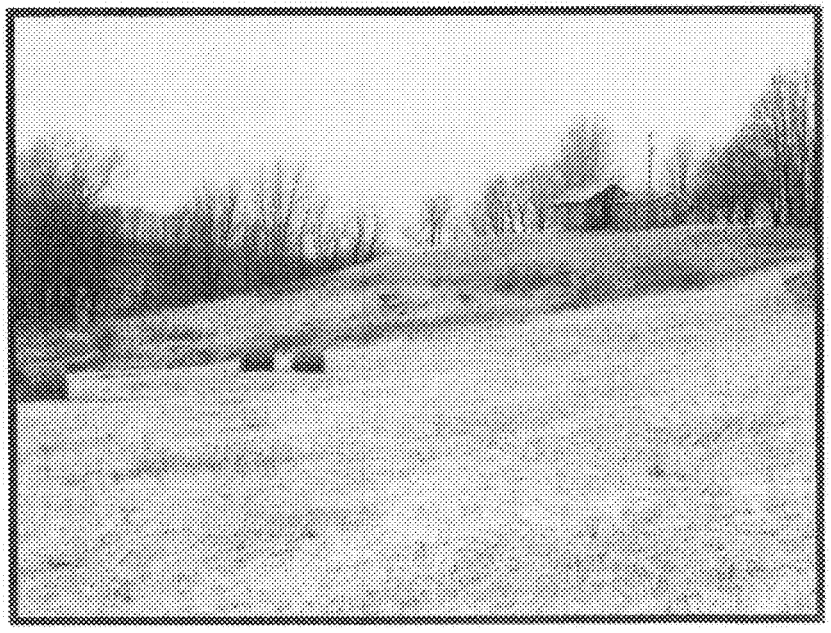


Plate 3. View of the haul road corridor facing northwest from approximately station 8+50.

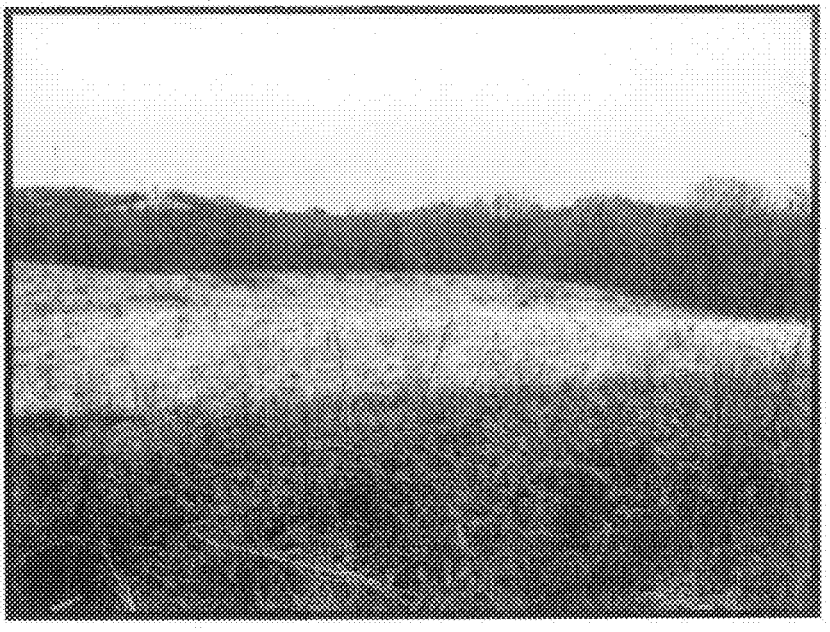


Plate 4. View of the project area, facing west from the southern terminus of the haul road, showing the landform that was tested.

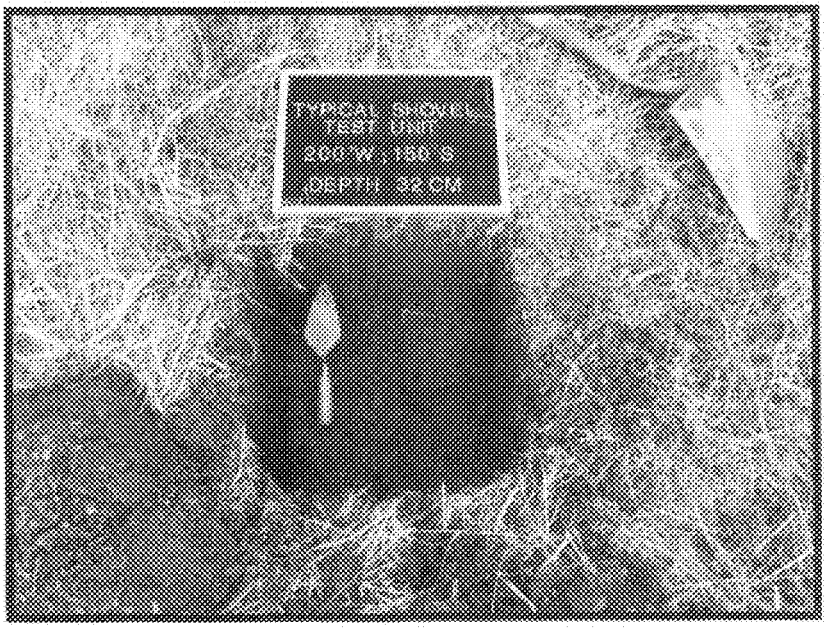


Plate 5. Typical shovel test unit excavated in the project area.

The post-mining land use for this area will be aesthetically appropriate and corresponds with adjacent land uses. Grasses and legumes will be used as a cover crop. Following reclamation, the capability and productivity of the land will be greater than that at the present time. The reclaimed land could sustain other agricultural or recreational uses.

27. Submit Surface Owner Comments from the legal or equitable owner(s) of record of the IBR application area concerning the proposed land use.

See Surface Owner Comments - American Energy Corporation

28. Is the post-mining land use to be different from the pre-mining land use?

Yes ☒ No ☐ If "yes," submit Land Use Change Notification.

29. Submit Negative PFL Determination for areas within this IBR application area that are not prime farmland.

Having considered the negative determinations, does this IBR application area include any land that is prime farmland? Yes ☐ No ☒

If "yes," submit PFL Restoration Plan or describe how this area will be avoided.

30. Are any of the variances listed below being requested?

Yes ☒ No ☐ If "yes," identify the variances and submit the applicable request(s) as an addendum.

☐ Stream buffer zone ☒ Small area drainage exemption

31. Will the proposed IBR area result in diversions of overland flow away from the disturbed area?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

32. Will the proposed IBR area result in construction of diversions to direct runoff through a sediment pond or a series of sediment ponds?

Yes ☐ No ☒ If "yes," provide the required engineering designs.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

RECEIVED
JUN 21 2006

SURFACE OWNER COMMENTS

TO: American Energy Corporation

FROM: American Energy Corporation

Location of Proposed Permit Area:

County/Twp: **Monroe / Sunsbury**	Lot/Section: **24**

The proposed postmining land use(s) for your property is/are checked below:

X	Cropland		Residential Land Use
X	Pasture Land		Forest
	Grazing Land		Undeveloped Land Use
	Industrial Land Use		Fish & Wildlife
	Commercial Land Use		Recreation Land Use
	Developed Water Resources		

Pursuant to 1501:13-4-05(G)(2) of the Ohio Administrative Code, surface owner comments concerning the proposed postmining land use(s) for the proposed permit area are required. Please check the appropriate box below.

X	*I concur with the proposed postmining land uses identified by the mine operator.*
	I DO NOT concur with the proposed postmining land uses.

COMMENTS:

[signature] Trouser 6/12/06

SIGNATURE OF SURFACE OWNER DATE

Please check each (if any) of the following listed wildlife enhancements that you would be interested in having on your property. **PLEASE NOTE:** Checking a box does not require the operator to provide any or all of selected enhancements. This form is a tool to help landowners better understand options that may be available through the coal company.

	Tree/Shrub Plantings		Small Depressions
	Ponds/Wetlands		Perching/Nesting Structures
	Brushpiles		Other:
	Rockpiles		Other:

WAIVER STATEMENT (Optional for Surface Owner): I, the above named surface owner, waive my right to comment on any revision to the permit application during the application review process that results in a change in the postmining land use(s) from those shown above. (NOTE: I DO NOT WAIVE MY RIGHT TO COMMENT ON ANY PROPOSED POSTMING LAND USE CHANGE AFTER PERMIT ISSUANCE.)

SIGNATURE OF SURFACE OWNER DATE

Ohio Department of Natural Resources
Division of Mineral Resources Management

LAND USE CHANGE NOTIFICATION

TO: U.S. Fish and Wildlife
Division of Ecological Services
6950-H Americana Parkway
Reynoldsburg, Ohio 43068

Division of Wildlife
2045 Morse Road
Building G-2
Columbus, Ohio 43229-6693

Note: This form is to be completed only if a land use change is to occur.

1. Is a copy of the coal mine permit application currently on file with the Division of Mineral Resources Management? ☒ Yes, ☐ No.

2. Coal mine permit application no. or mine name **D-0425, Century Mine, I.B.R.**

3. Application to revise permit no. **N/A**

4. Applicant **American Energy Corporation**

   Address **43521 Mayhugh Hill Road**

   City **Beallsville** State **OH** Zip **43716**

   Phone no. **740-926-9152**

6. Application Location

   County **Monroe** Township **Sunsbury**

   Section **24** Lot Acres **7.1**

   Township **4** Range **4** Quadrangle **Cameron**

Note: only list land uses below that will change from the premining use

7. Pre-mining Land Use type and acreage:

   Undeveloped Land - 1.3 Acres

8. Post-mining Land Use type and acreage:

   Pastureland - 1.3 Acres

9. Revegetation Plan (SPECIES AND AMOUNTS)

   8 lbs/ac. Orchard Grass **7 lbs/ac. Alfalfa**
   10 lbs/ac. Red Clover **10 lbs/ac. Timothy**

10. Stream Variance Request ☐ Yes, ☒ No If "yes," indicate the percentage of tree cover within the 100' buffer zones.

Notifications to U.S. Fish and Wildlife and Division of Wildlife must include a location map, and a map of the mine site showing where land use changes will occur. If "yes" to item 10 above, enclose a copy of Stream Buffer Zone Variance Request with each notification.

Revised 02/06
ONR 744-0049

IBK-0425-11

FOR DIVISION USE ONLY

This application is hereby ☒ issued, ☐ disapproved

☒ The acreage identified in Item 4 of this application is now part of permit D-0425.
☐ The acreage identified in Item 5 of this application has been deleted from permit _____.

Date: 9/29/06 Signed: Michael L. Smith
Chief, Division of Mineral Resources Mgmt.

$ 17,250.00 of performance bond received on 9-28-06 and
$ 532.50 of acreage fee received on 9-28-06.

Addendum To Land Use Change Notification
American Energy Corporation

Pre-Mining Land Use: Undeveloped Land

Post Mining Land Use: Pastureland

RULE 1501:13-9-17(D)(1-6)

1. This proposed land use is compatible with the adjacent land uses which primarily consist of pastureland and undeveloped land. There are no existing local, state or federal land use policies or plans for the area. A notification of the land use change has been mailed to U.S. Fish & Wildlife and to the Division of Wildlife. No zoning or other changes will be required for this land use change.

2. Based on soil types in the area, the plan is feasible. For a schedule showing how the proposed use will be developed and achieved within a reasonable time see the planting schedule in Part 3 of this permit application.

3. There are no public facilities required for the proposed land uses.

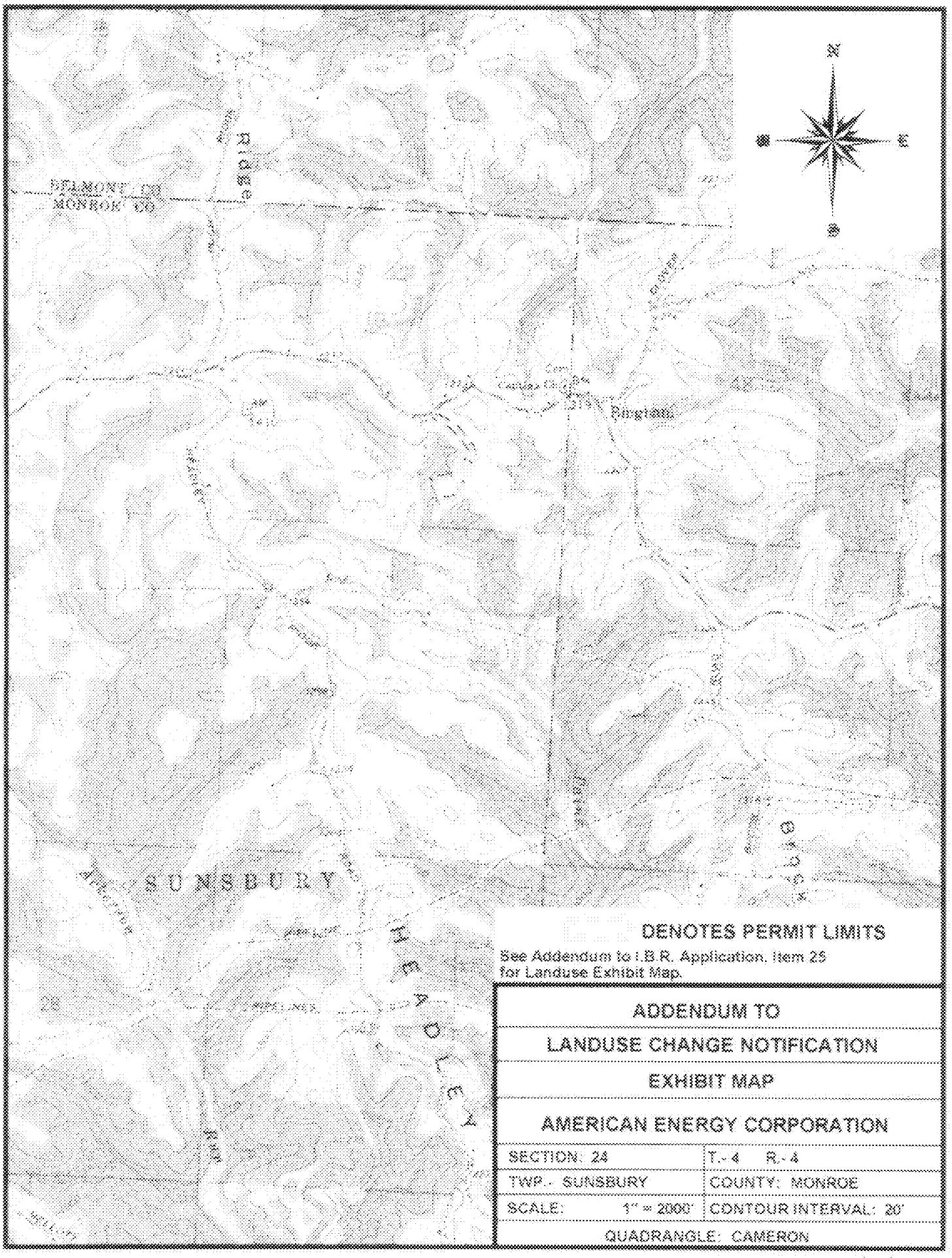
4. This proposed land use will neither present actual or probable hazard to public health or safety, nor will they pose any actual or probable threat of water flow diminution or pollution.

5. This proposed land use will not change the reclamation schedule for this permit application.

6. This proposed land use should not have any adverse effects on fish and wildlife. An opportunity to comment has been provided to the appropriate State and Federal Fish and Wildlife Management Agencies. The notification of land use change was mailed to the U.S. Fish and Wildlife and The Division of Wildlife.

NOTE: The pre-mining land use will remain on all areas in which the surface has not been disturbed.

IBR-0425-11



DENOTES PERMIT LIMITS

See Addendum to I.B.R. Application, Item 25 for Landuse Exhibit Map.

ADDENDUM TO	
LANDUSE CHANGE NOTIFICATION	
EXHIBIT MAP	
AMERICAN ENERGY CORPORATION	
SECTION: 24	T.- 4 R.- 4
TWP.- SUNSBURY	COUNTY: MONROE
SCALE: 1" = 2000'	CONTOUR INTERVAL: 20'
QUADRANGLE: CAMERON	

IBR-0425-11

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

NEGATIVE PFL DETERMINATION

Applicant's Name **American Energy Corporation**

Check (X) the appropriate item numbers and attach the documents used to make the demonstration.

☐ 1. Lands within the application area have not been historically used for cropland.

☐ 2. The slope of the land within the application area is greater than eight percent.

☐ 3. The total prime farmland soil unit (inside **and** outside of the application area) is less than three acres.

☒ 4. On the basis of a second order soil survey meeting the standards of the National Cooperative Soil Survey, there are no soil map units within the application area that have been designated prime farmland by the U.S. Natural Resource Conservation Service.

☐ 5. On the basis of a first order soil survey commissioned by the applicant and meeting the standard of the National Cooperative Soil Survey, there were found to be no prime farmland map units as designated by the NRCS within the application area (see PFL Restoration Plan, item 2 for 1st order survey criteria).

Part 2: Section G

Revised 02/06
DNR-744-0029

IBR-0425-11

U. S. Department of Agriculture
Natural Resources Conservation Service

OH-CPA-65
Rev. 9/94

Certification of Prime/Nonprime Farmland

Name of Mine Operator AMERICAN ENERGY CORPORATION

Location of Permit Application Area Sec 24 7-9-K-4 Sunbury

Size of Permit Area (Acres) 8 ± AC.

Check Appropriate Block:

1. ☑ I have determined that this permit application DOES NOT contain prime farmland in accordance with the edition of the current county Prime Farmland Map Unit List found in the county Field Office Technical Guide.

2. ☐ I have found that this permit application CONTAINS prime farmland in accordance with the edition of the Prime Farmland Map Units for Ohio and for the current county Prime Farmland Map Unit List, whichever is more current.

A soil map has been attached and prime unit(s) are as follows:

Soil Map Symbol	**Map Unit Name**

Signature: _____

Jeff Bettinger, Natural Resources Conservation Service
1119 East Main St., Barnesville, OH 43713 (740) 425-1100 Ext. 112

IBR-0425-11

Soils Map

Field Office: BARNESVILLE SERVICE CENTER
Agency: USDA-NRCS
Assisted By: Jeffery Parker Baltinger

Image: Orthophotography

140 0 140 280 420 560 Feet

N

IBR-0425-II

Addendum to I.B.R. Application, Item 30
American Energy Corporation

Chief
ODNR, Division of Mineral Resources Management
2045 Morse Road, Bldg. H-2
Columbus, Ohio 43229-6693

Re: D-0425, Small Area Drainage Exemption

Dear Chief:

American Energy Corporation is hereby requesting a Small Area Drainage Exemption at this proposed I.B.R. site. As shown on the enclosed I.B.R. map the S.A.D.E. is located in the central portion of the I.B.R. and contains 1.2 acres. This S.A.D.E. is for the outslope of the fill for the pad. Prior to disturbance, hay bales and/or silt fence will be placed where necessary along the northerly and easterly boundary of the pad to control runoff. Grading operations will then be undertaken to construct the pad. The pad will be constructed with a slight grade to drain toward the sump. Immediately after construction, the S.A.D.E. area will be seeded and mulched. All runoff will meet the appropriate effluent limitations.

Yours truly,
Suzie Utter

APPROVED X
DISAPPROVED ☐
DATE: 9-29-06
SIGNED Michael Smith
Chief

IBR-0425-11

33. Indicate which of the following are proposed to be constructed within this IBR application area, and provide the required engineering designs for each.

- ☒ Sedimentation pond(s) (submit Pond/Impoundment Plan)
- ☐ Water impoundments, including wetlands that impound water (submit Pond/Impoundment Plan)
- ☒ Sumps
- ☒ Other (specify) **Borehole - See Addendum**

34. Are any roads to be constructed, used or maintained within this IBR application area?

Yes ☒ No ☐ If "yes," provide the required description and engineering designs.

See Addendum to I.B.R. Application, Item 34

35. Are there any conveyor or rail systems to be constructed, used or maintained within this IBR application area?

Yes ☐ No ☒ If "yes," provide the required description and engineering designs.

I, the undersigned authorized representative of the permittee, hereby attest that no coal has been or will be removed from the acreage identified in this application and verify the information in this application as true and correct to the best of my information and belief.

Printed Name: **James R. Turner**

Signature: James R. Turner

Title: **Treasurer**

Date Signed: 6/12/06

Sworn before me and subscribed in my presence this 12th day of June, 2006.

Barbara L. Rush
Notary Public

BARBARA L. RUSH
NOTARY PUBLIC, STATE OF OHIO
MY COMMISSION EXPIRES 9-08-08

Addendum to I.B.R. Application , Item 33

The American Energy Corporation is proposing to install two (2) ventilation shafts for the Century Mine. The shafts will be located approximately one (1) mile east of Beallsville, Ohio along State Route 556. One shaft will be located in a field south of said state route while the other shaft will be located to the north of the highway.

The terrain of the landscape is rolling hills. The shaft pad will be located in a grown up field. The primary road will be located in a field currently being used for hay production. The undisturbed areas used in the enclosed calculations are assumed to be farmstead and pasture, good condition.

The site will disturb little acreage. Therefore, a S.A.D.E. will be applied for within this application. Runoff will be controlled from the pad and primary road areas by the use of road ditches, sumps and clarifiers.

A sump will be constructed downhill from the pad for use in drilling operations. The sump is designed to store two and a half (2 ½) times the amount of the raw drill hole. The remainder of the storage not filled by settled tailings will be used to control any fugitive sediment from the pad area. The sump will discharge through a constructed broad crested weir into a clarifier. The purpose of the clarifier is to assure water discharge requirements by adding settling time. A berm constructed on the pad will ensure that runoff will flow into the sump and not into the clarifier.

Temporary structures such as silt fencing, hay bales, and additional sumps will be used on an as needed basis.

ADDENDUM TO IBR, ITEM 33
AMERICAN ENERGY CORPORATION
IBR-0425-11

Aquifers will not be dewatered during drilling of the shaft. With the exception of Zone A, all aquifer zones will be encountered during the drilling of the shaft, however, the shaft will be sealed with steel casing and grout as shown the Addendum to I.B.R. Application, Item 33, Shaft Sealing Plan, and described in the addendum to Page 23, A(12)(e), shaft construction summary.

There appears to be a discrepancy on the abandoned mine quadrangle in this area for the abandoned Powhatan No. 1 Mine (Bt-270). The actual Powhatan No. 1 Mine map was utilized to place the mine limits on the I.B.R. / A.R.P. map. In the past, Powhatan No. 1 Mine shafts have been cross-tied in the field to insure that the abandoned underground mine works were tied to, and relate correctly to, the proposed new underground works.

Please refer to the actual abandoned mine map for the Powhatan No 1 mine, and *not* the USGS abandoned Mine Map Quad to confirm the correct location of the mine.

A sump will be used for storage of tailings. During reclamation, tailings generated from drilling the shaft and stored in the sump and will be returned to the shaft and sealed during mine closure. The facilities will be removed within two years following the completion of coal removal from the mine. See Addendum to Page 23, A(12)(e) for Shaft Drilling Procedures Summary. Due to buffering capabilities in the overburden to be affected in construction of the shaft, the tailings will present no potential for creating acid mine drainage. Toxic and acid forming material, as illustrated by test hole CLC-2002-43 (Permit D-0425-5), includes the following coal seams; Washington #12, Waynesburg A, Waynesburg #11, Fishpot, Redstone, and Pittsburgh #8 Roof coal, including black shales above and below most coal seams, and possibly intermittent black shales within the drill log. These coal seams and strata account for approximately 20 feet, or 3% of the overburden above the Pittsburgh #8 coal. Non-toxic strata includes limestone, limey shales, and limey claystones. These strata account for approximately 388 feet, or 59% of the overburden above the Pittsburgh #8 coal. The remaining strata consists of gray and red claystones, sandy shales, with no limestone nodules, and sandstones with no limestone nodules. These strata account for approximately 254 feet, or 38% of the overburden above the Pittsburgh #8 coal. In the unlikely event that this 38% of the overburden was all toxic and/or acid forming, the non-toxic strata outweighs the toxic strata by 31%.

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

POND/IMPOUNDMENT PLAN

Applicant's Name **AMERICAN ENERGY CORPORATION** Pond/Impoundment # **CLARIFIER**

Type of pond/impoundment **EMBANKMENT** Permanent ☐ Temporary ☒

1. DRAINAGE AREA DATA:

   a) Drainage area **2.0** acres
   b) Disturbed area **1.3** acres
   c) Ave. land slope **10** %
   d) Hydrologic soil group **C**
   e) Hydraulic length **250.0** ft.
   f) Cover/condition of the undisturbed area **FARMSTEAD**

2. DESIGN STORM CRITERIA:

   a) Method:

      1) Design method(s) including computer programs: **SEDCAD 4.0**

      2) NRCS curve number **87**

   b)

Rainfall Amount/Peak Flow	Rainfall, in.	Peak flow, cfs.
1) 10 year, 24 hour =	**3.5**	**3.6**
2) 25 year, 6 hour =	**4.1**	**4.5**
3) 50 year, 6 hour = (if permanent)		
4) 100 year, 6 hour = (if 20/20 size)		

3. SIZE:

   a) Dimensions:

1)	Dam height	**6.0** ft.	4)	Dam downstream slope	**33.3**	%
2)	Dam width	**12** ft.	5)	Dam upstream slope	**50**	%
3)	Dam length	**160** ft.	6)	Core length	ft.	ft. ft.

   b) Sediment storage volume **0.6** ac. ft. is provided below the **1233.0** foot elevation.

   c)

Stage/Area Data:	Elevation ft.	Surface Area ac.	Volume ft.
1) Bottom of pond/impoundment	**1227.0**	**0.067**	**0.0**
2) Streambed at upstream toe:	**1227.0**	**0.067**	**0.0**
3) Principal spillway inlet:	**N/A**	**N/A**	**N/A**
4) Emergency spillway crest:	**1233.0**	**0.138**	**0.6**
5) Top of embankment:	**1235.0**	**0.167**	**0.9**

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Revised 02/06
DNR-744-9033

4. PRINCIPAL SPILLWAY:

   a) Pipe length ft.
   b) Pipe diameter in.
   c) Pipe slope %
   d) Riser diameter in.
   e) Riser height ft.
   f) Type of pipe
   g) Number of anti-seep collars ; spacing along pipe ft.
   h) Does the design include a trash rack? ☐ Yes, ☐ No.
   i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

   a) Base width **12.0** ft.
   b) Design flow depth **0.5** ft.
   c) Exit slope **50.0**%
   d) Exist velocity **4.2** fps
   e) Channel lining **12" ROCK RIPRAP**
   f) Side slopes **2:1**
   g) Freeboard **1.5** ft.
   h) Entrance slope **50** %
   i) Length of level control section **18** ft.

6. The minimum static factor of safety for this impoundment is **1.5**

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned .

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

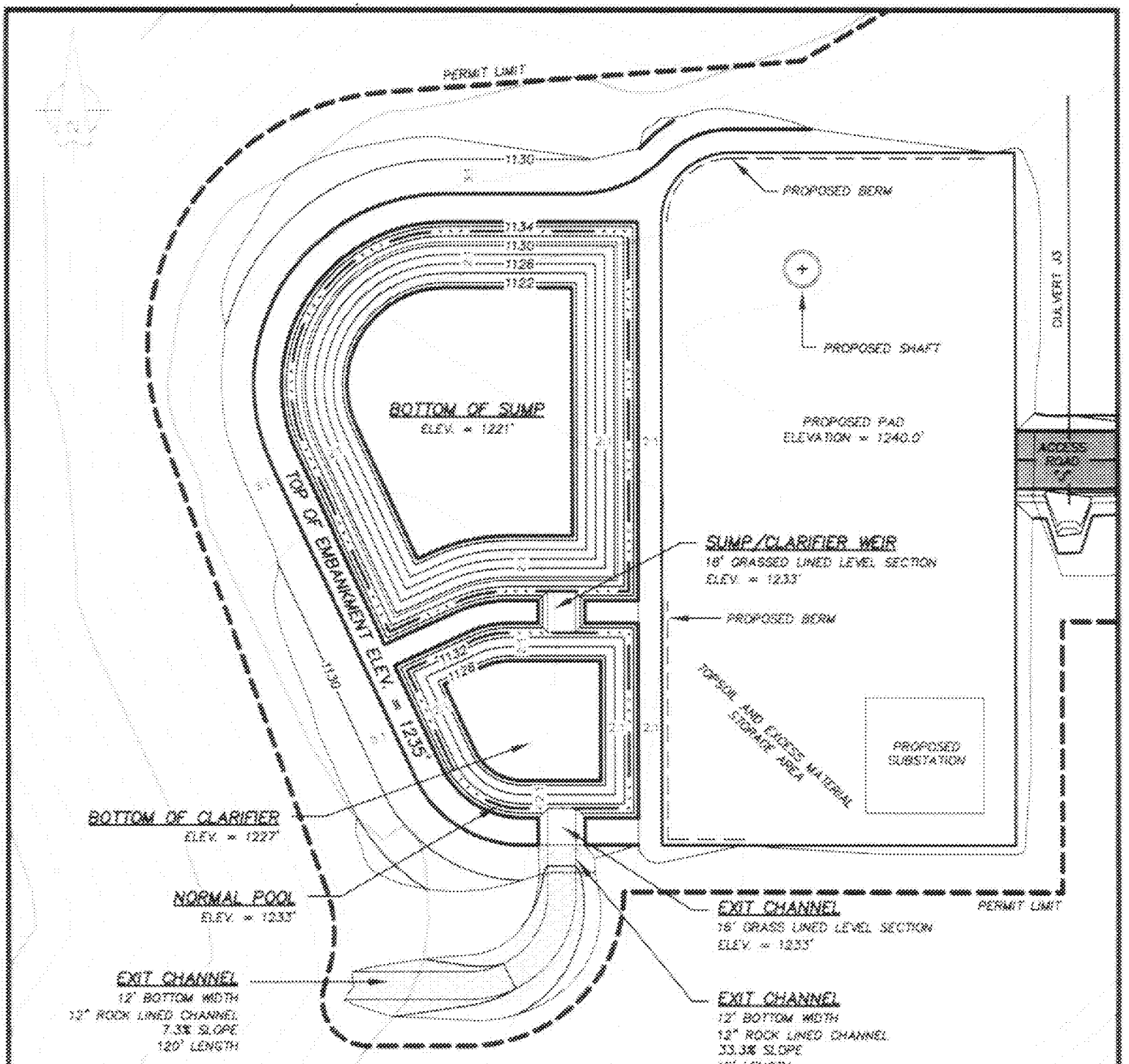
Signature

Date 9/1/06

JASON C. CRAVEN 69148 REGISTERED PROFESSIONAL ENGINEER

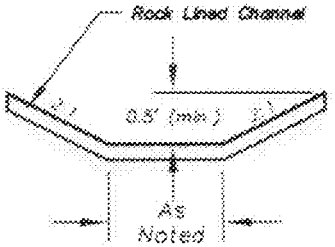
Part 3: Section A/H

Revised 02/06
DNR-744-9033



LEGEND

ROCK LINED CHANNEL



Typical Exit Channel

STATE OF OHIO
JASON C. CRAVEN
68148
REGISTERED PROFESSIONAL ENGINEER

Jason C. Craven P.E.

Addendum to Pond Impoundment Plan

SUMP / CLARIFIER

Applicant: AMERICAN ENERGY CORPORATION	
MULLETT AIR SHAFT SITE	
Township: SUNSBURY	County: MONROE
Contour Interval: 5'	Scale: 1" = 60'
Date: 09/01/06	Date Revised: / Comm #02001-48

342 High St., Box 471
Flushing, Ohio 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

POND/IMPOUNDMENT PLAN

Applicant's Name **AMERICAN ENERGY CORPORATION** Pond/Impoundment # **SUMP**

Type of pond/impoundment **EMBANKMENT** Permanent ☐ Temporary ☒

1. DRAINAGE AREA DATA:

a) Drainage area **2.0** acres
b) Disturbed area **1.3** acres
c) Ave. land slope **10** %
d) Hydrologic soil group **C**
e) Hydraulic length **250.0** ft.
f) Cover/condition of the undisturbed area **FARMSTEAD**

2. DESIGN STORM CRITERIA:

a) Method:

1) Design method(s) including computer programs: **SEDCAD 4.0**

2) NRCS curve number **87**

b) Rainfall Amount/Peak Flow

		Rainfall, in.	Peak flow, cfs.
1)	10 year, 24 hour =	**3.5**	**4.4**
2)	25 year, 6 hour =	**4.1**	**5.4**
3)	50 year, 6 hour = (if permanent)		
4)	100 year, 6 hour = (if 20/20 size)		

3. SIZE:

a) Dimensions:

1)	Dam height	**6.0** ft.	4)	Dam downstream slope	**33.3**	%
2)	Dam width	**12** ft.	5)	Dam upstream slope	**50**	%
3)	Dam length	**306** ft.	6)	Core length	ft.	ft.	ft.

b) Sediment storage volume **4.0** ac. ft. is provided below the **1233.0** foot elevation.

c) Stage/Area Data:

		Elevation ft.	Surface Area ac.	Volume ft.
1)	Bottom of pond/impoundment	**1221.0**	**0.214**	**0.0**
2)	Streambed at upstream toe:	**1227.0**	**0.330**	**1.6**
3)	Principal spillway inlet:	**N/A**	**N/A**	**N/A**
4)	Emergency spillway crest:	**1233.0**	**0.471**	**4.0**
5)	Top of embankment:	**1235.0**	**0.532**	**5.0**

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Revised 02/06
DNR-744-9033

4. PRINCIPAL SPILLWAY:

   a) Pipe length ft.
   b) Pipe diameter in.
   c) Pipe slope %
   d) Riser diameter in.
   e) Riser height ft.
   f) Type of pipe
   g) Number of anti-seep collars ; spacing along pipe ft.
   h) Does the design include a trash rack? ☐ Yes, ☐ No.
   i) Does the design include an anti-vortex device? ☐ Yes, ☐ No.

5. EMERGENCY SPILLWAY/EXIT CHANNEL:

   a) Base width **12.0** ft.
   b) Design flow depth * ft.
   c) Exit slope **50.0**%
   d) Exist velocity * fps
   e) Channel lining **N/A**
   f) Side slopes **2:1**
   g) Freeboard **1.8** ft.
   h) Entrance slope **50** %
   i) Length of level control section **18** ft.

6. The minimum static factor of safety for this impoundment is **1.5**

7. Provide as an addendum to this attachment a detailed plan view or 2 cross sections of the impoundment.

8. COMMENTS:

   *** THE EXIT CHANNEL CONSISTS OF A CONNECTOR BROAD CRESTED WEIR INTO THE CLARIFIER.**

9. Is this an MSHA structure? ☐ Yes ☒ No. If "yes," provide the MSHA ID number if one has been assigned

10. If this is to be retained as a permanent impoundment, submit an addendum to this attachment demonstrating compliance with 1501:13-9-04 of the Administrative Code.

11. I hereby certify that this impoundment is designed to comply with the applicable requirements of 1501:13-9-04 of the Administrative Code using current, prudent engineering practices.

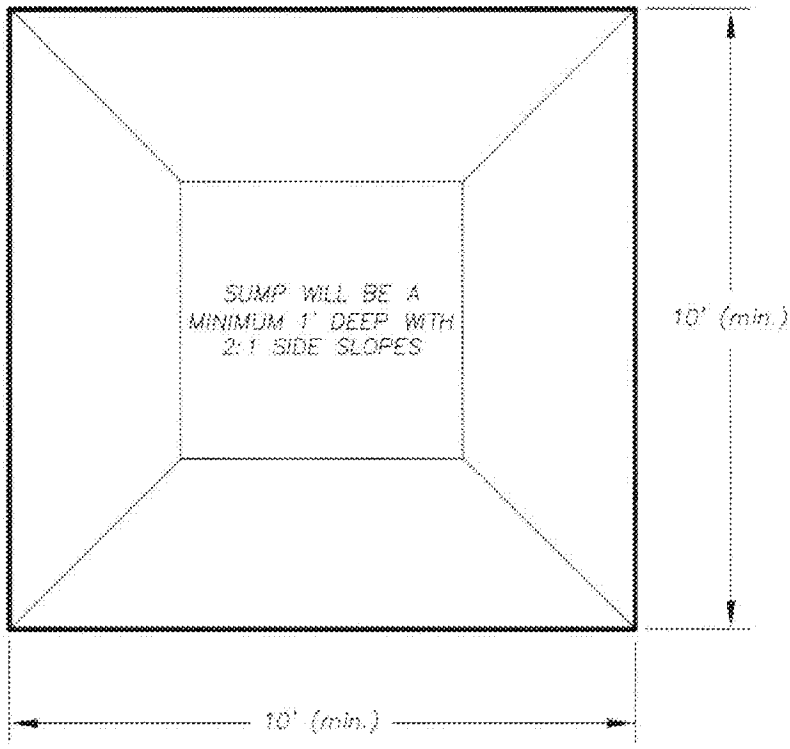
Jason C. Craven — Signature

5/1/06 — Date

JASON C. CRAVEN 69148 REGISTERED PROFESSIONAL ENGINEER

Part 3: Section A/H

Revised 02/06
DNR-744-9033



NOT TO SCALE

STATE OF OHIO
JASON C. CRAVEN
69148
REGISTERED
PROFESSIONAL ENGINEER

Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 23

SUMP DETAIL

Applicant: AMERICAN ENERGY CORPORATION

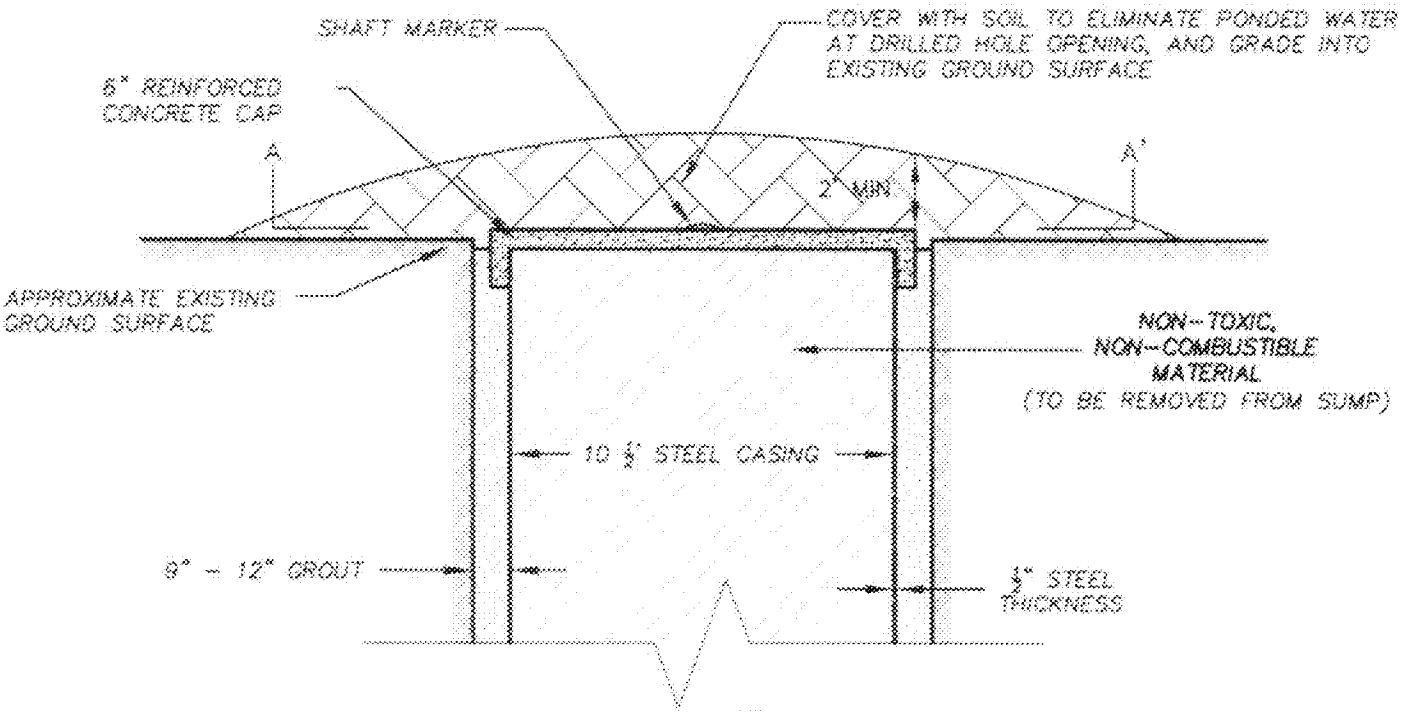
MULLETT AIR SHAFT SITE

Township: SUNSBURY	County: MONROE
Contour interval: N/A	Scale: AS NOTED

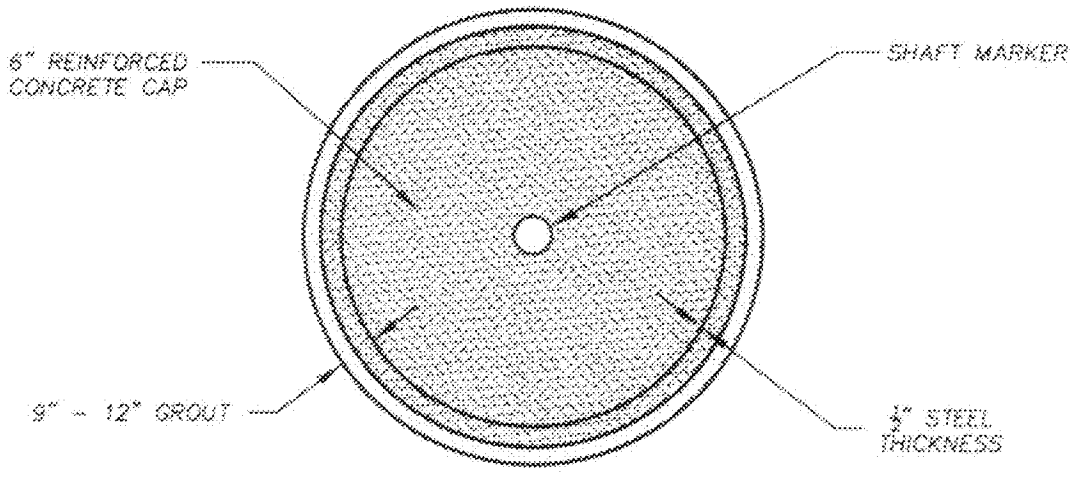
Date: 03/02/06	Date Revised:	Comm #02001-49

HAMILTON
342 High St., Box 471
Hinckley, Ohio 43973
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: jhamilton@1st.net
web: hamiltonandassoc.com

IBR-0425



PLAN VIEW



SECTION A-A'

STATE OF OHIO
JASON C. CRAVEN
69148
REGISTERED PROFESSIONAL ENGINEER

Jason C. Craven, P.E. 9/10/08

ADDENDUM TO I.B.R. APPLICATION, ITEM #3

SHAFT SEALING PLAN

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

Township: SUNSBURY	County: MONROE
Contour Interval: N/A	Scale: N.T.S.
Date: 03/02/06	Date Revised:	Comm #02601-49

342 High St., Box 471
Hamilton, Ohio 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1.net
www.hamiltonandassoc.com

ADDENDUM TO PAGE 23, A(12) (e)
D-0425-6

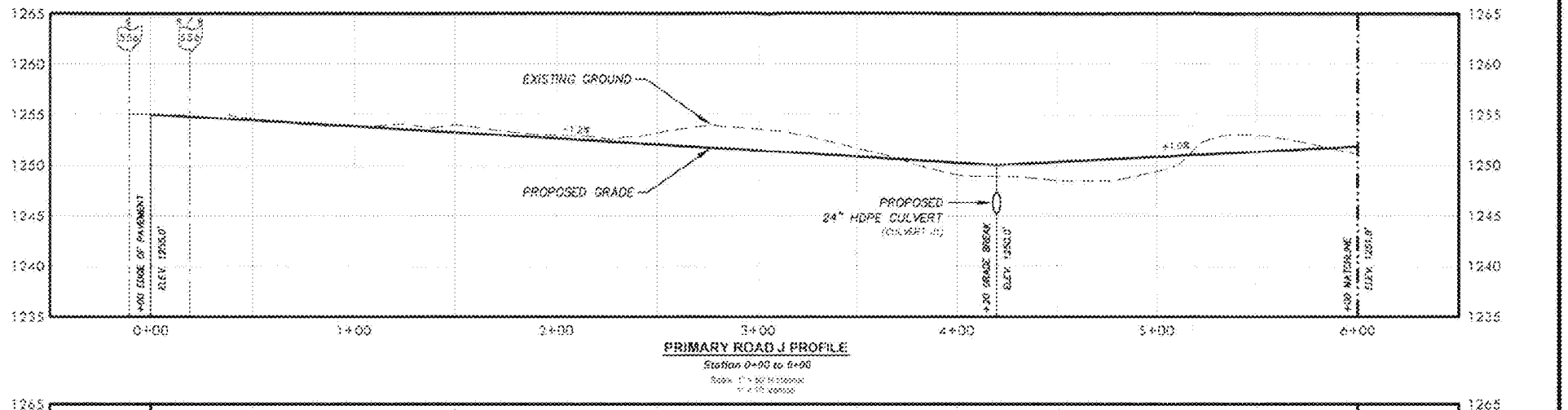
American Energy Corporation
Century Mine
Shaft Drilling Procedures Summary

When the permit is issued, and access to the site is achieved, the site will be constructed to include drainage controls, and the drill rig will be assembled. The normal protocol is as follows:

1. Pre-grout drilling, a series of 6" diameter holes are completed around the projected final shaft perimeter before the main shaft drilling begin. This series of holes will be drilled and pressure grouted, in order to stabilize the strata and fill voids around the proposed shaft area for an accurate and stable drilling platform.
2. A pilot hole is then drilled, which can vary in size, to contain the large reaming bit and to guide the reaming bit accurately to the final depth of the shaft.
3. The large reaming bit, which is usually 1 to 2 feet larger in diameter than the final diameter of steel liner to be installed, is then put into position and used to drill the hole to a pre-determined depth. The hole will remain filled with water during the entire process so that rock cuttings can be pumped from the shaft to the surface cuttings sump and allow the steel liner to be floated into place after drilling is completed.
4. The steel liner with the first section's bottom end enclosed, will be installed once the hole is drilled to the final depth and bit is removed. This process utilizes the water in the hole to stabilize and control the level of the steel liner as each section of steel liner is installed into the bore hole, water will be pumped inside the steel liner so that the liner will sink into the hole to accommodate the next section of liner for installation. This process is repeated until all of the steel liner sections are connected together and positioned into the hole.
5. The steel liner will be grouted into place once installed to total depth.
6. The water is then pumped out of the steel liner with exception of 3-5 feet that the pump can not pick-up.
7. The mine will then at a later date cut into the bottom of the steel lined shaft to create the ventilation connection between surface and underground. No water enters the mine in the region of the shaft.
8. When the air shaft is no longer needed the cuttings from the sump will be placed back into the shaft until completely filled. The surface area will then be regraded, mulched and seeded as per permit.

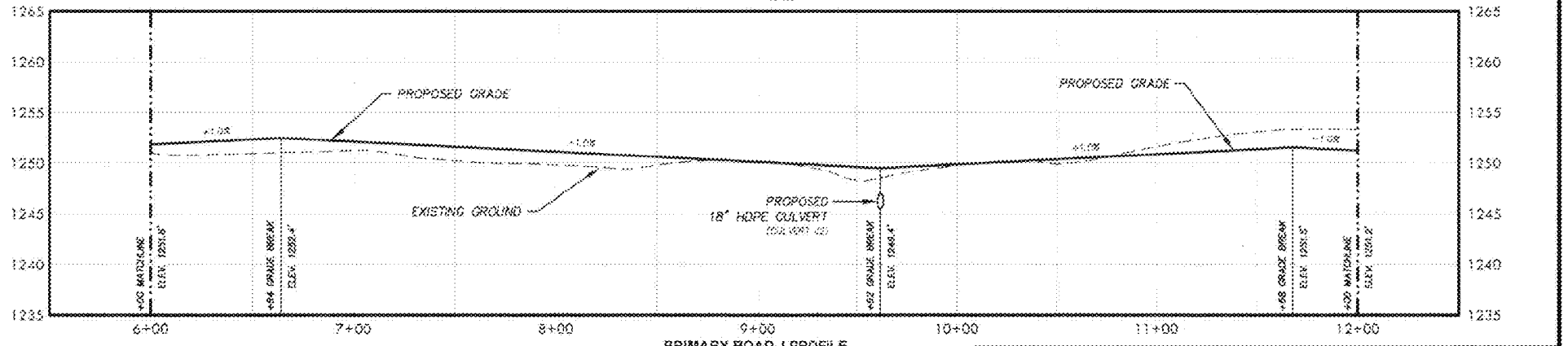
Note : All drilling is done with water from the cuttings sump. The water is re-circulated from the shaft to the sump and stored in the sump during the operation.

IBK-0425-11



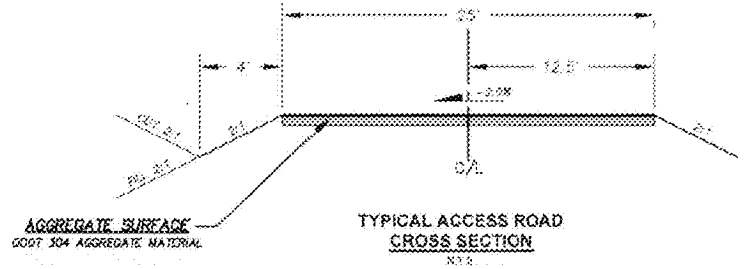
PRIMARY ROAD J PROFILE

Station 0+00 to 6+00



PRIMARY ROAD J PROFILE

Station 6+00 to 12+00



TYPICAL ACCESS ROAD
CROSS SECTION

NTS

STATE OF OHIO
JASON C. CRAVER
8918
REGISTERED
PROFESSIONAL ENGINEER

ADDENDUM TO I.S.R. APPLICATION, ITEM 94

PRIMARY ROAD J

Applicant: AMERICAN ENERGY CORPORATION

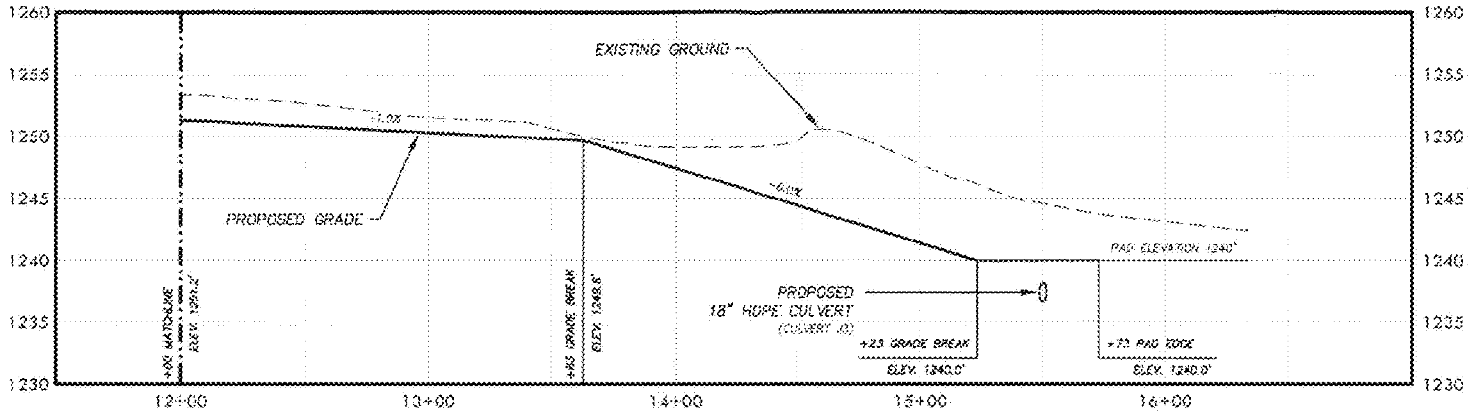
MULLETT AIR SHAFT SITE

Township: SUNSBURY	County: MONROE
Page 1 of 2	Scale: 1" = AS NOTED
Date: 10/12/16	Date Revised:	Comm #0306.01.49

HAMILTON

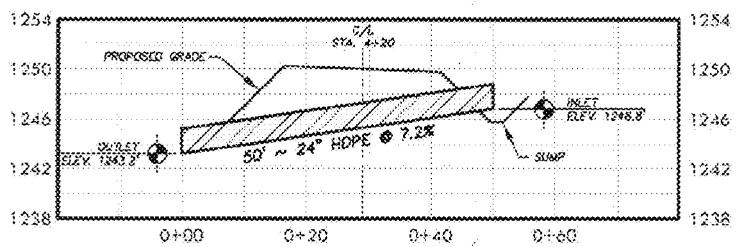
EBR-0426-11

AEC 19617



PRIMARY ROAD J PROFILE

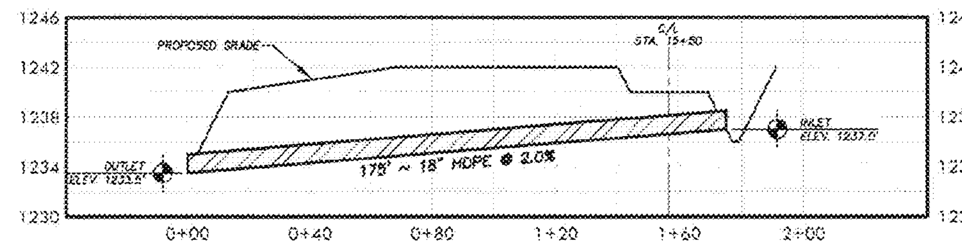
Station 12+00 to 15+73



ROCK CHANNEL PROTECTION
15' L X 8' W X 1.5' D
24" ROCK

CULVERT J1 PROFILE

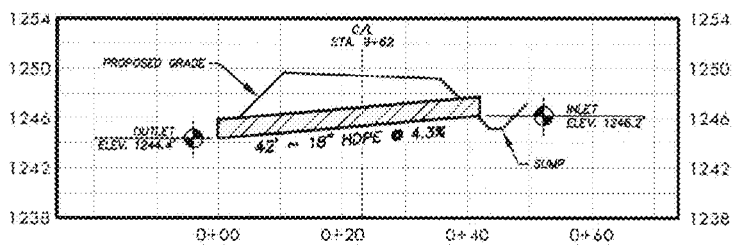
Discharge (25y-24h)	= 16.8 cfs
Depth of Flow	= 0.7'
Headwater	= 3.0'
Outlet Velocity	= 17.1 fps



ROCK CHANNEL PROTECTION
10' L X 6' W X 1.5' D
24" ROCK

CULVERT J3 PROFILE

Discharge (25y-24h)	= 5.3 cfs
Depth of Flow	= 0.5'
Headwater	= 3.0'
Outlet Velocity	= 6.0 fps



ROCK CHANNEL PROTECTION
10' L X 6' W X 1.5' D
24" ROCK

CULVERT J2 PROFILE

Discharge (25y-24h)	= 10.0 cfs
Depth of Flow	= 0.7'
Headwater	= 3.0'
Outlet Velocity	= 12.8 fps

STATE OF OHIO
JASON C. CRAVEN
66148
PROFESSIONAL ENGINEER

Jason C. Craven, P.E.

ADDENDUM TO I.B.R. APPLICATION, ITEM 34

PRIMARY ROAD J

Applicant: AMERICAN ENERGY CORPORATION

MULLETT AIR SHAFT SITE

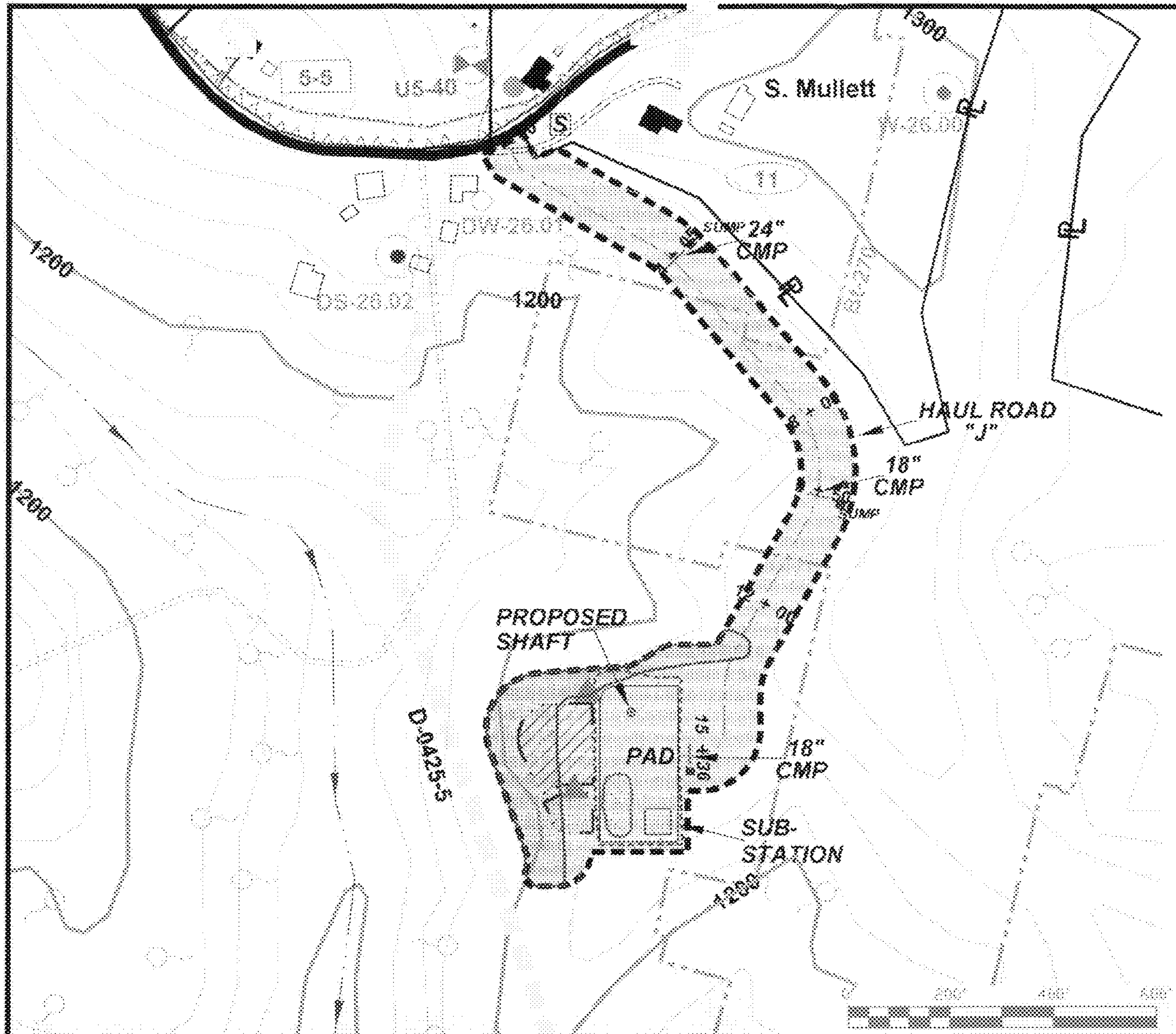
Township: SUNSBURY	County: MONROE
Page 2 of 2	Scale: 1" = AS NOTED

Date: 03/02/06	Date Revised:	Comm #02001-49

HAMILTON

IBR-0425-11

AEC 19618



ADDENDUM TO I.B.R. APPLICATION, ITEM 25

LANDUSE EXHIBIT MAP

PERMIT D-0425
(MULLETT SHAFT SITE I.B.R.)

American Energy Corporation
43521 Mayhugh Hill Road
Beallsville, Ohio 43716

AREA TO BE INCLUDED UNDER I.B.R. 7.1 ACRES.

1.3 ACRES - PRE-MINING LAND USE: UNDEVELOPED LAND
POST-MINING LAND USE: PASTURELAND

5.8 ACRES - PRE-MINING LAND USE: CROP LAND
POST-MINING LAND USE: CROP LAND

SITUATED IN SECTION 34, T-4 R-4,
SUNSBURY TOWNSHIP, MONROE COUNTY, OHIO.

LOCATED ON THE CAMERON USGS
7 1/2 MINUTE QUADRANGLE MAP.

SCALE: 1" = 200' CONTOUR INTERVAL: 20'

DATE PREPARED: MAY 10, 2006

DATE REVISED: JULY 18, 2006
DATE REVISED: Sept. 7, 2006

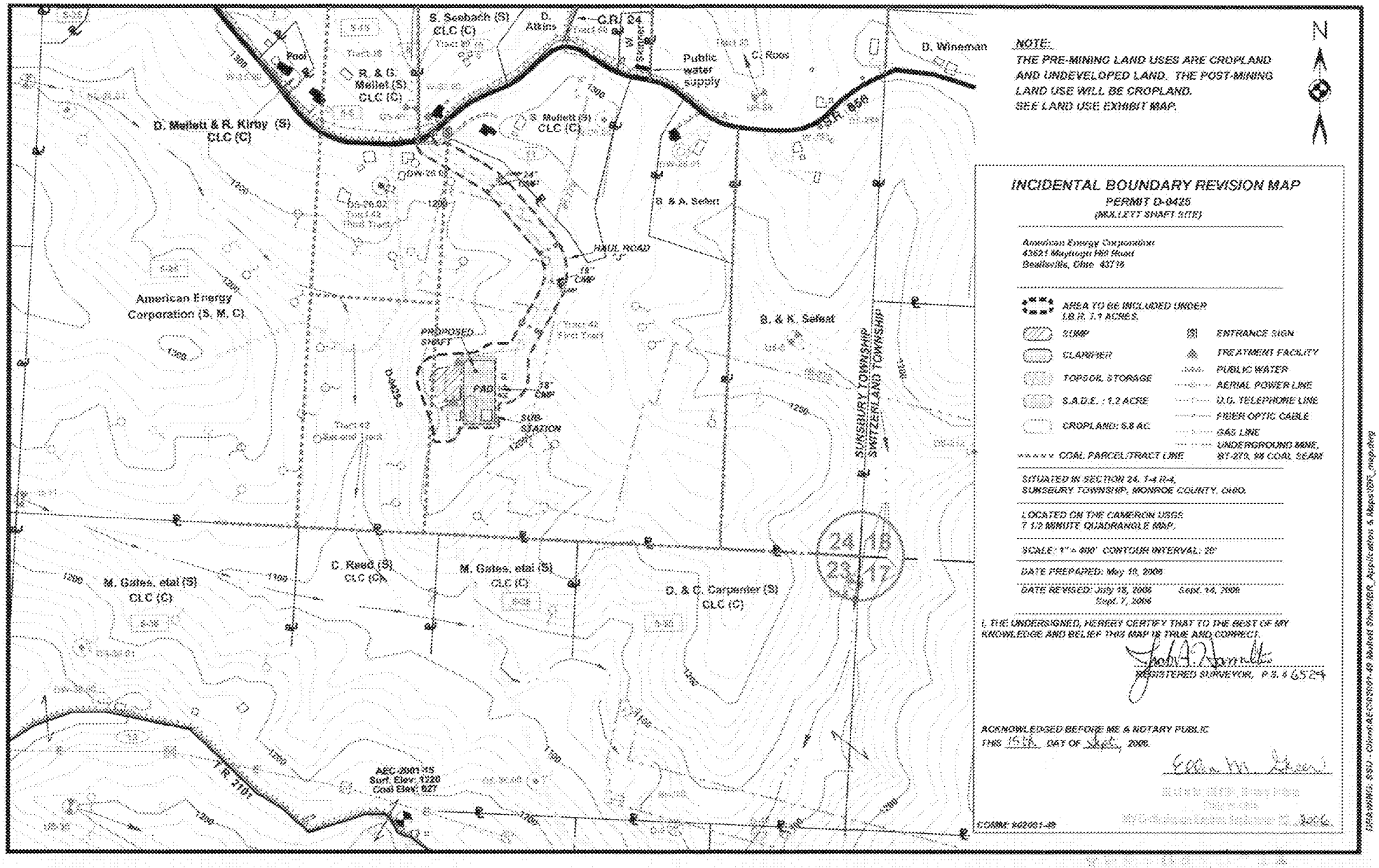
I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.

REGISTERED SURVEYOR, P.S. # 6524

ACKNOWLEDGED BEFORE ME A NOTARY PUBLIC
THIS 8th DAY OF Sept, 2006.

COMM# 402001-49

AEC 19619


S. Seebach (S)
CLC (C)
D. Attins
C.R. 24
Public water supply
C. Ross
D. Wineman
R. & G. Mellet (S)
CLC (C)
D. Mellett & R. Kirby (S)
CLC (C)
S. Mellett (S)
CLC (C)
B. & A. Sebert
HAUL ROAD
American Energy Corporation (S, M, C)
PROPOSED SHAFT
PAD
SUB-STATION
B. & K. Sebert
SUNSBURY TOWNSHIP
SWITZERLAND TOWNSHIP
C. Reed (S)
CLC (C)
M. Gates, etal (S)
CLC (C)
M. Gates, etal (S)
CLC (C)
D. & C. Carpenter (S)
CLC (C)
T.R. 210
AEC-3001-15
Surf. Elev. 1220
Coal Elev. 927
NOTE:
THE PRE-MINING LAND USES ARE CROPLAND AND UNDEVELOPED LAND. THE POST-MINING LAND USE WILL BE CROPLAND.
SEE LAND USE EXHIBIT MAP.
N
INCIDENTAL BOUNDARY REVISION MAP
PERMIT D-0435
(MULLETT SHAFT SITE)
American Energy Corporation
43521 Mayhugh Hill Road
Beallsville, Ohio 43716
AREA TO BE INCLUDED UNDER I.B.R. 1.1 ACRES.
SUMP
CLARIFIER
TOPSOIL STORAGE
S.A.D.E. : 1.2 ACRE
CROPLAND: 5.8 AC.
COAL PARCEL/TRACT LINE
ENTRANCE SIGN
TREATMENT FACILITY
PUBLIC WATER
AERIAL POWER LINE
U.G. TELEPHONE LINE
FIBER OPTIC CABLE
GAS LINE
UNDERGROUND MINE, RT-270, 9B COAL SEAM
SITUATED IN SECTION 24, T-4 R-4, SUNSBURY TOWNSHIP, MONROE COUNTY, OHIO.
LOCATED ON THE CAMERON USGS 7 1/2 MINUTE QUADRANGLE MAP.
SCALE: 1" = 800' CONTOUR INTERVAL: 20'
DATE PREPARED: May 19, 2006
DATE REVISED: July 18, 2006 Sept. 14, 2006
Sept. 7, 2006
I, THE UNDERSIGNED, HEREBY CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS TRUE AND CORRECT.
REGISTERED SURVEYOR, P.S. # 6529
ACKNOWLEDGED BEFORE ME & NOTARY PUBLIC
THIS 19th DAY OF Sept, 2006.
COMM. #02001-08

AEC 19620

ODNR-Division of Mineral Resources Management

IBR REVIEW TRACKING SHEET

APPLICANT	**American Energy Corp.**	**IBR #**	**425-11**
IBR SUMMARY	**Area for an air shaft, access raod, pond, topsoil storage, sub-station.**		
REGION	**South**	**APP. MANAGER**	**Brent Heavilin**
DATE RECEIVED BY APPLICATION MANAGER			**06-21-2006**

INITIAL REVIEW

Check applicable reviewers and indicate date(s) the IBR was distributed and comments returned		Date Sent for Review	Date Response	ACCEPTABLE YES	ACCEPTABLE NO
☐	Soil Scientist			☐	☐
☒	Engineer: **Todd Crum**	07-25-2006	08-18-2006	☐	☒
☒	Hydrologist: **Mike Dillman**	07-25-2006	08-14-2006	☐	☒
☒	Field ES: **Kevin Ricks**	07-25-2006	08-21-2006	☒	☐
☒	Inspector: **John Putergaugh**	07-25-2006	08-07-2006	☒	☐
☒	Archeologist: **Jeff Reichwein**	07-25-2006	8-29-06	☒	☐
☒	Other: **DNAP, Butch Grieszmer**	07-25-2006	8-03-2006	☒	☐

Date Revisions Sent to Applicant	8-28-06	*Revisions Rec'd from Applicant*	9-8-06

SECOND REVIEW

Check applicable reviewers and indicate date(s) the IBR was distributed and comments returned		Date Sent for Review	Date Response	ACCEPTABLE YES	ACCEPTABLE NO
☐	Soil Scientist:			☐	☐
☒	Engineer: Todd Crum	9-11-06	9-12-06	☒	☐
☒	Hydrologist: Mike Dillman	9-11-06	9-18-06	☒	☐
☒	Field ES: Brent Heavilin 9-11-06		9-18-06	☒	☐
☐	Inspector:			☐	☐
☐	Other:			☐	☐

Date Revisions Sent to Applicant		*Revisions Rec'd from Applicant*	9-18-06

UNITED STATES POSTAL SERVICE.

IGR-425-11

Date: 07/29/2006

susan grant:

The following is in response to your 07/28/2006 request for delivery information on your Signature Confirmation item number 3408 2133 3931 3481 9870. The delivery record shows that this item was delivered on 07/26/2006 at 10:00 AM in COLUMBUS, OH 43211 to K HECHEMER. The scanned image of the recipient information is provided below.

Delivery Section

Signature of Recipient: K. Hechemer
Kelly Heschemer

Address of Recipient: 5677 E. Hudson St

Thank you for selecting the Postal Service for your mailing needs. If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,

United States Postal Service

Ohio Department of Natural Resou

BOB TAFT, GOVER... SAMUEL W. SPECK, DIRECTOR

Ohio Department of Mineral Resources Management
Michael L. Sponsler, Chief
1855 Fountain Square Court-Bldg. H-3
Columbus, Ohio 43224-1383
Phone: (614) 265-6633 Fax: (614) 265-7999

To: American Energy Corporation
43521 Mayhugh Hill Road
Twp. Hwy 88
Beallsville, OH 43716

Date: July 24, 2006

Re: AMERICAN ENERGY CORP
Coal Mine Permit Number: D-425
Coal Mine Application Number: IBR-425-11
Land Use Change

The Division of Mineral Resources Management has received an Incidental Boundary Revision application for surface lands owned by you. The applicant is proposing to change the land use on certain areas of your lands upon completion of reclamation. (Please note that if your land within this application contains several different land uses, only the land uses proposed to be changed are pertinent to this document.) In accordance with rule 1501:13-9-17(D) of the Ohio Administrative Code, we need to consult with you about the proposed land use change for these areas.

The applicant identifies the present land use as: Undeveloped
and is proposing to have this area reclaimed to a post mining land use of: Pastureland

If you are satisfied with the proposed post mining land use as described above, please check the appropriate space, sign and date this letter and return in the enclosed envelope.

If you are not satisfied with the proposed post mining land use as described above, please check the appropriate space, sign this letter, provide an explanation on the back of this form, and return in the enclosed envelope. We will contact you to discuss your concerns.

If the Division does not receive a response from you within thirty (30) days after actual or constructive receipt of this letter, we will assume you agree with the present land use and are satisfied with the post mining land use.

☐ Satisfied ☐ Not Satisfied (provide explanation)

Signature: _____ **Date:** _____
Landowner

Sincerely,

Brent Heavilin, Application Manager
Permitting Section
Mineral Resources Management

Signature Confirmation # 91 3408 2133 3931 3461 9863

F52A Rev. 07/01/2001

UNITED STATES POSTAL SERVICE.

Date: 07/28/2006

susan grant:

The following is in response to your 07/28/2006 request for delivery information on your Signature Confirmation item number 3408 2133 3931 3481 9863. The delivery record shows that this item was delivered on 07/27/2006 at 12:28 PM in BEALLSVILLE, OH 43716 to K SMITH. The scanned image of the recipient information is provided below.

Delivery Section

Signature of Recipient: Kelli J. Smith
Kelli J. Smith

Address of Recipient: 43621 Marshall Rd

Thank you for selecting the Postal Service for your mailing needs. If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,

United States Postal Service

IBR Review Due Date Letter

Applicant: AMERICAN ENERGY CORP
From: Brent Heavilin, Application Manager
Date IBR Sent: 07/25/2006
Date IBR Review Due: 08/24/2006

Permit Number: D-425
App. Number: IBR-425-11
Acreage: 7.1

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

- [x] Hydrologist: Mike Dillman
- [x] Inspector: John Puterbaugh
- [ ] Field Team Leader:
- [x] Environmental Specialist: Brent Heavilin
- [x] Engineer: Scott McDiffitt
- [ ] Soil Scientist:
- [x] Archeologist: Jeff Reichwein
- [ ] Other:

I have reviewed this IBR and find it:

- [x] ACCEPTABLE No further revision(s) is required. The IBR is for activity that complies with current regulatory requirements.
- [ ] UNACCEPTABLE Additional revisions are needed as outlined in the attached document.

Signature: Jeffrey C. Reichwein, M.A. **Date:** 8/29/06

F93 Rev: 07/01/2001

OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINERAL RESOURCES MANAGEMENT

ARCHEOLOGY - SURFACE

1. Applicant's Name **American Energy Corporation**

   Address **43521 Mayhugh Hill Road**

   City **Beallsville** State **Ohio** Zip **43716**

2. Contact Person **Jack A. Hamilton & Assoc., Inc.** Phone **740-968-4947**

3. Location and Acreage Information

   County **Monroe** Township **Sunsbury**

   Section **24** Lot(s) T-**4**, R-**4**

   USGS Quadrangle **Cameron** Acreage **7.1**

4. Application Map Attached: (area described in 3 above is to be outlined on the map)

5. Previous Disturbance:

   ☐ present; ☒ absent within application area only (Note: previous disturbance is any type of natural or human made disturbance to the topsoil and subsoil in the application area prior to submittal. Examples include, but are not limited to, slides, severe erosion, previous mining activities, clear cut logging, recreational activities, etc., but not agricultural plowing and discing.)

   If previous disturbance is present, list below and clearly delineate the extent of each type of disturbance on the application map to be sent to the SHPO by the division. Attach addendum, if necessary.

Type of Disturbance	Date Occurred	Percent of Application	Map Symbol

Revised 02/06
DNR-744-9039

IBR-0425-11

AEC 19626

6. Current Land Use: (describe land use and percent of land in that use)

Agricultural: **82% (Cropland)**

Residential:

Mining:

Pasture:

Secondary Forest Growth:

Has area been clear cut logged? Yes ☐, No ☒
If "yes," indicate approximate date(s) of logging.

Other: **Undeveloped: 18%**

7. Historic and Prehistoric Structures:

Definitions

A historic or prehistoric structure is a work made up of interdependent and interrelated parts in a definite pattern of organization. Constructed by humans, and 50 years or older, it is usually an engineering project.

Types

Historic structures include, but are not limited to dwellings, buildings, barns, farmstead outbuildings, bridges, culverts, churches, schools, halls, iron furnaces (and associated buildings), canals, forts, abandoned coal mine buildings, mine entrances, tipples and related structures, etc.

Prehistoric structures include, but are not limited to, earthworks, mounds, rockshelters, etc.

List all known historic and prehistoric structures below and locate each one on the application map to be sent to the SHPO including corresponding labeled black and white, front and rear photographs of each structure. Attach addendum, if necessary.

Structure Type	Construction Date	Map Reference	Photo # Front	Photo # Rear
None				

Revised 02/06
DNR-744-0039

8. Previous Historic and/or Archeological Surveys: (describe any surveys known to applicant on the application area or adjacent areas)

Application area: **Phase I Survey performed in March 2006**

Adjacent areas:

9. **SHPO please send this form to:**
Division of Mineral Resources Management
Attn: Division Archeologist
2045 Morse Road, Building H-3
Columbus, Ohio 43229-6693

FOR USE BY THE STATE HISTORIC PRESERVATION OFFICE ONLY

(check appropriate space)

A. ☐ This is a recommendation for an archeological survey of the application based on the following reasons (attach addendum, if necessary):

Revised 02/06
DNR-744-9039

A SHPO review of the area shown on the application map has provided a listing below of all known historic and prehistoric properties listed and eligible for listing on the "National Register of Historic Places" and known historic and prehistoric sites on the application area and adjacent areas (in a 1.5 mile radius). The listing includes, when appropriate, those historic and prehistoric structures identified by the applicant in items 7 and 8 above.

Listed and Eligible National Register Sites

Site Name (#)	Type	Application Area	Adjacent Area

Known Historic and Prehistoric Sites

Site Name (#)	Type	Application Area	Adjacent Area

B. ☐ A SHPO review of the area shown on the application map and information contained in this form finds that the proposed mining does not have a reasonable probability of affecting any properties listed or eligible for listing on the "National Register of Historic Places." Therefore, no further coordination will be necessary with this office unless the scope of the application area changes.

State Historic Preservation Officer _____

SHPO # _____

Date _____

Revised 02/06
DNR-744-9039

ROUTE SLIP Date 9/12/06

To: Brent Heavilin

From: Todd Cim

Subject: IBR 425-11

Purpose	Circulate to	Initial	Date
☐ Action______			
☐ Approval			
☐ As Requested			
☐ Comment			
☐ Information			
☐ File______			
☐ For Follow up on ___			
☐ Reply ☐ Direct			
☐ From Me			
☐ Return to			
☐ See Me			
☐ Signature			
☐ Other – See Remarks			

Remarks

AEC 19630

IBR Revisions Review Due Date Letter

Permittee **American Energy Corp.** ; IBR No. **425-11**

Date IBR Sent **09-11-06**

Date IBR Review Due **09-25-06**

Application Manager **Brent Heavilin**

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

☒ Hydrologist **Mike Dillman**

☒ Engineer **Todd Crum**

☐ Soil Scientist _____ ☐ PFL, ☐ ARM

☐ Inspector _____

☐ Other _____

I have reviewed this IBR and find it:

☑ acceptable

☐ unacceptable (submit revision comments below or on a separate page)

Signature

9/12/06
Date

ROUTE SLIP Date 3-1-06

To: Mike Dillaman

From: Brent Hamilin

Subject: OER Response IAR-425-11

Purpose	Circulate to	Initial	Date
☐ Action			
☐ Approval			
☐ As Requested			
☐ Comment			
☐ Information			
☐ File			
☐ For Follow up on			
☐ Reply ☐ Direct			
☐ From Me			
☐ Return to			
☐ See Me			
☐ Signature			
☐ Other – See Remarks			

Remarks

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

July 28, 2006

RE: Incidental Boundary Revision
Application # IBR-425-11
Permit # D-425
Century Mine
American Energy Corporation
Harrison County

Mr. Brent Heavilin
Environmental Specialist
Ohio Department of Natural Resources
Division of Mineral Resources Management
1855 Fountain Square Court, Building H-3
Columbus, Ohio 43224-1383

Dear Mr. Heavilin:

In response to your July 24, 2006 notification, we have reviewed our files and have identified the following features within one mile of the site:

NA	Public water system well(s)
NA	Public water system intake(s)
NA	Drinking water source protection area(s) - ground water
NA	Corridor management zone(s)
NA	Emergency management zone(s)

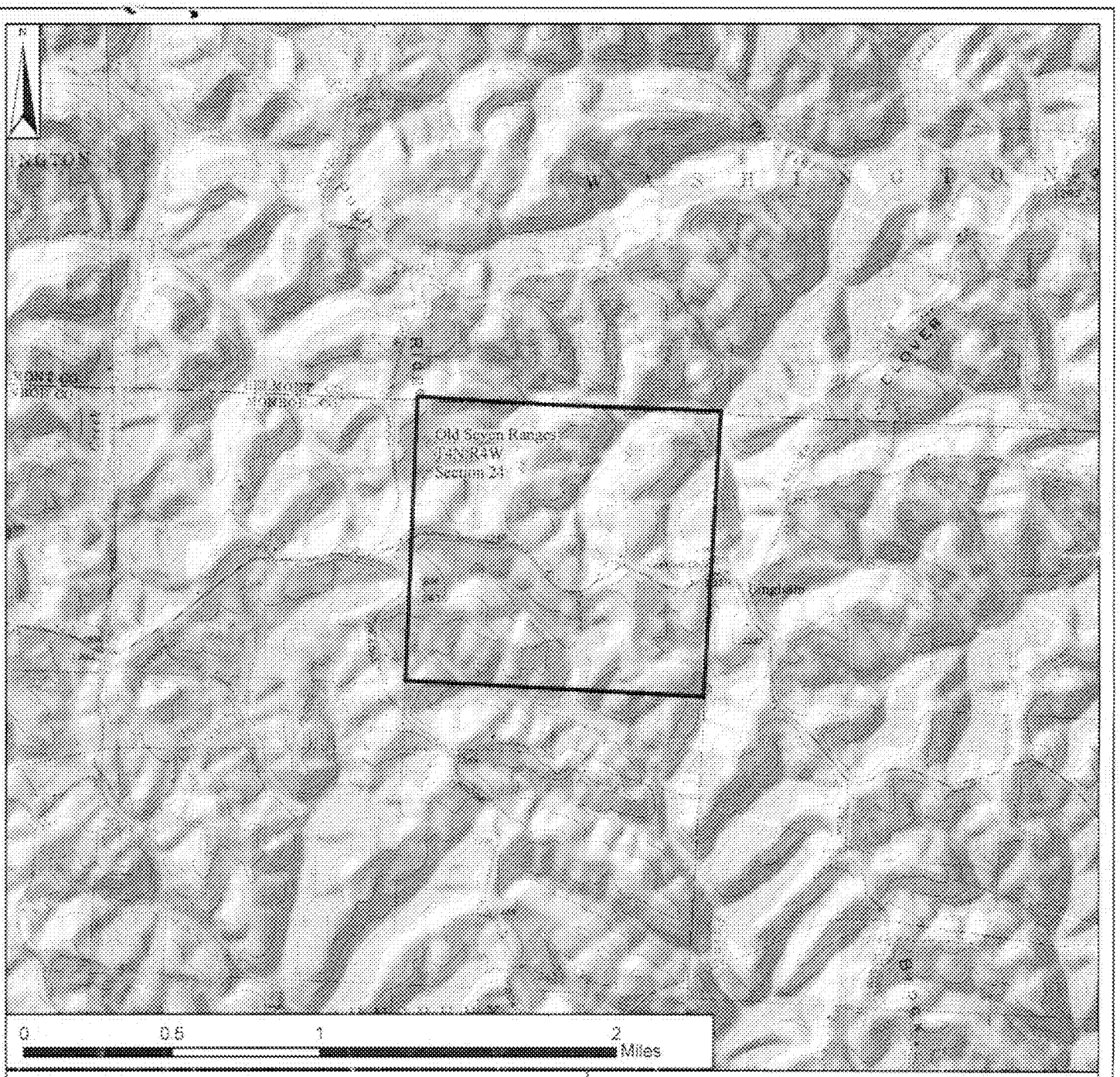
The attached map is provided for your information. Additional areas may be determined in the future, as new public water systems are developed and existing public water systems add or discontinue use of drinking water sources.

Feel free to contact me by phone at (614) 644-2752 or by email at craig.smith@epa.state.oh.us if you have any questions or need additional information.

Sincerely,

Craig Smith
Environmental Specialist
Division of Drinking and Ground Waters

Attachment: Map of Area



LEGEND

Approximate Area Covered in Notice of Application

Public Water System Supplies

Surface Water Intake Well

Drinking Water Source Protection Areas - Ground Water

Community Public Water System

Non-transient, Non-community Public Water System

Transient, Non-community Public Water System

Drinking Water Source Protection Areas - Surface Water

Emergency Management Zone

Corridor Management Zone / Zone of Critical Concern

Protection Area

Incidental Boundary Revision
Permit # D-425, Application # IBR-425-11
Century Mine
American Energy Corporation.

Map created on July 26, 2006

Base Maps:

Armstrong Mills 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey
Cameron 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey
Hunter 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey
Woodsfield 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey

OhioEPA

Division of Drinking and Ground Waters

ROUTE SLIP Date 9-8-06

To: Mike Dillman

From: Brent Headrick

Subject: IBR-0425-11 Revision

Purpose	Circulate to	Initial	Date
☐ Action			
☐ Approval			
☐ As Requested			
☐ Comment			
☐ Information			
☐ File			
☐ For Follow up on			
☐ Reply ☐ Direct			
☐ From Me			
☐ Return to			
☐ See Me			
☐ Signature			
☐ Other – See Remarks			

RECEIVED
SEP 11 2006
DIVISION OF WATER
RESOURCES MANAGEMENT

Remarks: Attached are revisions from Han Hens. Please review and respond to me with your comments.

Thanks, Brent

342 High St., Box 471
Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

Jack A. HAMILTON & Associates, Inc.

Civil Engineering
Land Surveying
Mine Permitting
GIS Data Services
Land Development
Global Positioning Systems

September 8, 2006

Mr. Brent Heavilin
ODNR, Division of Mineral Resources Management
2050 East Wheeling Ave.
Cambridge, Ohio 43725

Re: IBR-0425-11, American Energy Corp.

Dear Brent,

In response to your letter dated August 28, 2006, requesting revisions to IBR-0425-11, the following items have been revised.

IBR Item 33:

1. Part 2, E:
   a. Aquifers will not be dewatered. See Addendum to IBR, Item 33.
   b. The underground mine limits previously shown on the IBR map are correct. See Addendum to IBR, Item 33.
   c. Addressed disposition and handling of cuttings (tailings) from the shaft drilling. See Addendum to IBR, Item 33.
2. Submitting sealing plans for the air shaft. See Addendum to IBR, Item 33, Shaft Sealing Plan.
3. Submitting narrative description of shaft installation. See Addendum to Page 23, A(12)(e).

Addendum to Pond/Impoundment Plan:

1. The depth of the Rock Lined Channel has been modified to provide a 0.5 foot depth to the proposed exit.

Addendum to IBR Application, Item 34; Primary Road 3:

2. The proposed culverts shall be constructed with Rock Channel Protection, as specified on the addendum. These structures have been designed to dissipate the energy created by the flow. The velocities at the end of the Rock Channel Protection will be much less than what is discharging out of the culvert.

Sincerely,
Jack A. Hamilton & Associates, Inc.
Consultants for American Energy Corp.

Ellen M. Greer

Ellen M. Greer, Permitting

IBR Review Due Date Letter

Applicant: AMERICAN ENERGY CORP
From: Brent Heavilin, Application Manager
Date IBR Sent: 07/25/2006
Date IBR Review Due: 08/24/2006

Permit Number: D-425
App. Number: IBR-425-11
Acreage: 7.1

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

- [x] Hydrologist: Mike Dillman
- [x] Inspector: John Puterbaugh
- [ ] Field Team Leader:
- [x] Environmental Specialist: Brent Heavilin
- [x] Engineer: Scott McDiffitt
- [ ] Soil Scientist:
- [x] Archeologist: Jeff Reichwein
- [ ] Other:

I have reviewed this IBR and find it:

- [x] ACCEPTABLE No further revision(s) is required. The IBR is for activity that complies with current regulatory requirements.
- [ ] UNACCEPTABLE Additional revisions are needed as outlined in the attached document.

Signature: Brent Heavilin **Date:** 8-28-06

RECEIVED
JUL 25 2006
DIVISION OF MINERAL RESOURCES MANAGEMENT
SOUTHEASTERN REGION

F93 Rev: 07/01/2001

PRE-INITIAL ADMINISTRATIVE REVIEW PROCEDURES (IBR)

Applicant American Energy Corporation IBR No. 0425-11

Application Manager .....

Date		Steps (if not applicable, indicate NA)
6-21-06	1	IBR received for completeness review
7-17-06	2	Completeness determination a. Incomplete: applicant/consultant notified by: ☐ telephone, ☐ in person, _____(contact), or ☒ in writing (copy attached)
7-20-06		b. Revisions for completeness received FAX
—		c. Incomplete: applicant/consultant notified by: ☐ telephone, ☐ in person, _____(contact), or ☐ in writing (copy attached)
—		d. Revisions for completeness received
7-24-06		e. Complete (applicant or consultant notified of application no.). Has the area been flagged? ☐ Yes ☐ No Verified/date _____
7-24-06	3	IBR information entered into permit database ☒ (CTS)
7-24-06	4	Due Date letter drafted (F93)
7-24-06	5a)	"Applicant and Designated Addressees" (F95) letter drafted 07-25-06 *5b) Notification letter distributed
07-25-06	*6	Map and Archeology - Surface mailed to SHPO (certified) Signature Confirmation # 91 3408 2133 3931 3481 9870
7-24-06	7a)	Land use change letter drafted (F82A) 07-25-06 7b) Land use change distributed by certified mail to landowner.
N/A	8)	Neg. PFL Determination, map and due date letter to division's soil scientist
N/A	9)	PFL Restoration Plan in application, draft NRCS letter (F37) and:
N/A	*a)	NRCS letter, map and PFL Restoration Plan to NRCS (certified mail)
N/A	b)	Due date letter, copy of NRCS letter, map, PFL Restoration Plan, and, as applicable, Negative PFL Determination to division's soil scientist
7-24-06	10a)	Engineer review sheet completed 07-25-06 10b) Engineer copy of application, due date letter and engineer review sheet distributed
N/A	*11	☐ACOE/☐OEPA information distributed (indicate by √ if applicable)

* Administrative/Clerical responsibility

INCIDENTAL BOUNDARY REVISION CHECKLIST

OPERATOR	American Energy	PERMIT NO.	D-0425
TYPE OF MINE	UG	DATE OF REVIEW	7-11-06
CONSULTANT		INSPECTOR	J. L. Peterson

☐ AFFECTED ☐ COMPLETE

☒ UNAFFECTED ☐ INCOMPLETE

INCORRECT	CORRECT	NOT APPLICABLE	
			MAP
☐	☒	☐	Proposed Acreage 5% or Less (Original + AAA's only)
☐	☒	☐	Acreage Proposed
☐	☒	☐	Location of Proposed Area Dashed Black Boundary, Shaded Yellow
☐	☒	☐	Proposed Ponds Shown Sump
☐	☐	☒	Nature of Watershed if Different From Permit
☐	☐	☒	Public Road W/in 100 Feet of Permit
☐	☒	☐	Everything W/in 500 Feet of Permit
☐	☒	☐	All Perennial & Intermittent Streams within 1000 feet
☐	☒	☐	County, Twp., Section, Lot, Boundaries & Names
☐	☒	☐	Occupied Buildings W/in 300 Feet of IBR Area
☐	☒	☐	Show or Indicate Current Land Use
☒	☐	☐	Name of Landowner/Mineral Owner on and W/in 500 feet
☐	☒	☐	Four Copies of Map
☐	☒	☐	Statement Certifying Correctness of Map
☐	☐	☒	Notarization
☐	☐	☒	Within 300 Feet of a Public Building, School, Church, Community/Institutional Building or Public Park
☐	☐	☒	Within an Area Dedicated as a Nature Preserve, National Park, National Wildlife Refuge, National trails, National Wilderness Preservation, National Recreation Area or Wild and Scenic Rivers or River Corridors
☐	☐	☒	Within in 1000 Feet of any Wild, Scenic or Recreational River
☐	☐	☒	Within the Boundaries of any National Forest
☐	☐	☒	Within 100 Feet of a Cemetery
☐	☐	☐	Proposed Diversion Ditches
☐	☐	☒	Existing Impoundments
☐	☐	☒	Stream Buffer Zones
☐	☒	☐	Proposed Sumps
☐	☒	☐	Small Area Drainage Exemptions and Acreage
☐	☐	☒	Wetland Areas and Acreage
☐	☐	☒	PFL Areas and Acreage n/a PEC
☐	☒	☐	Proposed Water Treatment Facilities
☐	☐	☒	Within an Area Designated Unsuitable for Mining

INCORRECT	CORRECT	NOT APPLICABLE	
			TITLE BLOCK
☐	☒	☐	Map Title
☐	☒	☐	Operator's Name
☐	☒	☐	Township & County Name
☐	☒	☐	Section(s) &/or Lot(s) Number(s)
☐	☒	☐	Map Scale (Same as Approved Map)
☐	☒	☐	Contour Interval
☐	☒	☐	Date Prepared
☐	☒	☐	Quadrangle Name
☐	☒	☐	Permit Number
			APPLICATION/ATTACHMENTS/ADDENDUMS
☐	☒	☐	Four IBR Application Forms
☐	☒	☐	Description of IBR Request:
☐	☒	☐	One Original Signature
☐	☒	☐	Negative Prime Farmland Statement from NRCS OHCPA65 form (Negative PFL Determination)
☐	☐	☒	Prime Farmland Restoration Plan (PFL Restoration Plan) OHCPA65 form from NRCS
☐	☐	☒	Pond Data Sheets & Cross Sections for New Ponds (Pond-Impoundment Plan)
☐	☐	☒	Stream Buffer Zone Variance (Refer to P & H PPD 98-1)
☐	☐	☒	Stream Diversion or Restoration Plan & Designs
☐	☐	☒	Diversion Ditch Designs
☐	☐	☒	Sump Designs
☐	☐	☒	Small Area Drainage Exemption
→ ☒	☐	☐	300 Feet Consent For Occupied Dwellings (Occupied Dwelling Consent)
☐	☒	☐	New Adjacent Landowners if W/in 100 Feet (Adjacent Owners)
☐	☐	☒	Public Road Permit if W/in 100 Feet of Road (Public Road Consent)
☐	☐	☒	Existing Structures Addendum
☐	☒	☐	Haul Road Designs/Cross Sections (if new)
☐	☒	☐	Landowner (Same as Noted on Map) (Other Business Entities required if new Business Entity)
☐	☐	☒	Right-of-Entry Affidavit (Unless Severed)
☐	☐	☒	Consent to Enter (Surface Owners' Consent) if Surface Owner Only
→ ☒	☐	☐	Notification of Land Use Change Addendum
☐	☒	☐	Landowner Comment (If New Owner or change of Land Use on Existing Land Owner)

Ensure the IBR area is clearly flagged and matches the IBR map

COMMENTS:

Ohio Department of Natural Resources

BOB TAFT, GOVERNOR

SAMUEL W. SPECK, DIRECTOR

Division of Mineral Resources Management
South Region
2050 E Wheeling Avenue
Cambridge, OH 43725-2159
Phone: (740) 439-9079 Fax: (740) 432-7711

FACSIMILE TRANSMITTAL FORM

FAX: (740) 432-7711

SEND TO:

Name: Suzie Utter

Company: Hamilton & Associates

Fax #

FROM:

Name: Brent Heavilin

Date: 7-17-06 Number of pages including this cover sheet 2

MESSAGE:

Comments on IBR-425-11
(7.1 Acre Airshaft Site)

AEC 19641

MEMO

DATE: 7/17/2006

TO: SUZIE UTTER

FROM: BRENT HEAVILIN

RE: IBR-425-II REVIEW

I have reviewed the referenced IBR application and have the following comments:

1. The surface and mineral ownership should be listed on the map for the S. Mullen property.
2. Item 26 says the post mining land use will be pastureland and undeveloped. The land use map says cropland. The land use change says undeveloped to pasture land. Please clarify these items.
3. The use of valid existing rights for the houses near the access road will be evaluated during the review process.

Please revise these items and call me if you have any questions.

342 High St., Box 471
Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

Jack A. HAMILTON & Associates, Inc.

Civil Engineering
Land Surveying
Mine Permitting
GIS Data Services
Land Development
Global Positioning Systems

July 18, 2006

Mr. Brent Heavilin
ODNR, Division of Mineral Resources Management
2050 East Wheeling Avenue
Cambridge, Ohio 43725

Re: American Energy Corporation, IBR-425-11 Review

Dear Brent,

In regard to your "Memo" dated July 17, 2006, the following revisions have been completed:

1. Revised the map to add the surface and mineral ownership to Mullet as requested.

2. Revised the Land Use Exhibit map to clarify that the undeveloped land will be returned as pastureland instead of cropland.

3. Comment noted.

Sincerely,

Suzie Utter

Suzie Utter

342 High St., Box 471
Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

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Global Positioning Systems

LETTER OF TRANSMITTAL

TO: Mr. Brent Heavilin
ODNR, Div. of Mineral Resources Mngt.
2050 East Wheeling Ave.
Cambridge, Ohio 43725

DATE: July 18, 2006
COMM.# 02001-49
RE: IBR-425-11

RECEIVED
JUL 20 2006
DIVISION OF MINERAL RESOURCES MANAGEMENT

WE ARE SENDING: ☒ Attached ☐ Under Separate Cover

BY THE FOLLOWING METHOD: U.S. Mail

DATE	NO.	DESCRIPTION
	1	Cover Letter
	4	I.B.R. Deem Complete Revision Packages

THESE ARE TRANSMITTED: ☒ For Your Use ☐ As Requested ☒ For Review/Comment ☐ Returned

REMARKS:

TO File
American Energy Corporation

SIGNED Suzie Utter
Suzie Utter

342 High St., Box 471
Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

Jack A. HAMILTON & Associates, Inc.

Civil Engineering
Land Surveying
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GIS Data Services
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Global Positioning Systems

LETTER OF TRANSMITTAL

TO: Mr. Brent Heavilin
ODNR, Div. of Mineral Resources Mngt.
2050 East Wheeling Ave.
Cambridge, Ohio 43725

DATE: June 20, 2006
COMM.# 02001-49
RE: I.B.R.

RECEIVED
JUN 21 2006

WE ARE SENDING: ☒ Attached ☐ Under Separate Cover

BY THE FOLLOWING METHOD: Hand Delivery

DATE	NO.	DESCRIPTION
	4	I.B.R. Packages (Includes One Original)

THESE ARE TRANSMITTED: ☒ For Your Use ☐ As Requested ☒ For Review/Comment ☐ Returned

REMARKS:

COPY TO File
American Energy Corporation

SIGNED Suzie Otter
Suzie Otter

AEC 19645

Ohio Department of Natural Resources

BOB TAFT, GOVER SAMUEL W. SPECK, DIRECTOR

Division of Mineral Resources Management
Michael L. Sponsler, Chief
2045 Morse Rd Bldg. H-3
Columbus, Ohio 43229-6693
Phone: (614) 265-6633 Fax: (614) 265-7998

Date: 07/24/2006

To: Appropriate Governmental Agencies

From: Brent Heavilin, Environmental Specialist

Re: Incidental Boundary Revision (IBR) Application:
Permit Number: D-425
Application Number: IBR-425-11
IBR Application Acreage: 7.1
Proposed Activity: Bleeder shaft, access road, sumps, pond, topsoil

Applicant: AMERICAN ENERGY CORP
43521 Mayhugh Hill Rd.
Twp Hwy 88
Beallsville, OH 43716

In an effort to insure notification of all interested governmental agencies of the receipt of IBR applications, we are providing you with this courtesy notification. Your comments and/or concerns about this application are welcome and should be directed to the Division of Mineral Resources Management at the number listed below. Chapter 1513 of the Ohio Revised Code does not require public notice or filing of IBR's, however, should you wish to review or comment on the application you may do so by contacting the Division of Mineral Resources Management, Permitting, Hydrology Section. Comments should be forwarded within thirty (30) days of receipt of this letter in order to be considered in our decision-making process. Should you have questions regarding this application, please contact me at (614) 265-6633.

IBR LOCATION INFORMATION:

COUNTY	TOWNSHIP	SECTION	LOTS	T	R	Quad
MONROE	SUNSBURY	24		4	4	CAMERON

Note: IBR's cannot be submitted for the purpose of coal removal.

District Office: CAMBRIDGE

F95 Rev. 07/01/2001

Distribution List:

Office of Surface Mining
4606 Morse Road
Room 102
Columbus, OH 43230

Ohio Historical Preservation Office
567 East Hudson Street
Columbus, OH 43211-1030

Michael Eggert
Ohio EPA, Division of Drinking & Groundwater
Lazarus Government Center
P.O. Box 1049
Columbus, OH 43216-1049

Butch Grieszmer
Division of Natural Areas & Preserves
2045 Morse Road, Bldg. F-1
Columbus, OH 43229-6693

Jack A. Hamilton & Associates, Inc
P.O. Box 471
342 High Street
Flushing, OH 43977

Bruce Goff
Ohio EPA, Southeast District Office
2195 Front Street
Logan, OH 43138

Monroe County Commissioners
Courthouse
101 North Main Street, Room 12
Woodsfield, OH 43793

Sunsbury Township Trustees
c/o Loren Baker, Clerk
51612 SR 148
Beallsville, OH 43716

Monroe County Planning Commission
Courthouse
101 N. Main St.
Woodsfield, OH 43793

To: Brent Hearnlin,
Cambridge

From Mike Dallman

8/14/06

IBR Revisions Review Due Date Letter

Permittee **American Energy Corp.** ; IBR No. **425-11**

Date IBR Sent **09-11-06**

Date IBR Review Due **09-25-06**

Application Manager **Brent Heavilin**

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

☒ Hydrologist **Mike Dillman**

☒ Engineer **Todd Crum**

☐ Soil Scientist _____ ☐ PFL, ☐ ARM

☐ Inspector _____

☐ Other _____

I have reviewed this IBR and find it:

■ acceptable

☐ unacceptable (submit revision comments below or on a separate page)

Michael J. Dillman 9-19-06

Signature Date

Dillman, Mike

From: Dillman, Mike
Sent: Thursday, September 14, 2006 5:46 PM
To: Heavilin, Brent
Subject: AEC IBR-425-11

Brent:

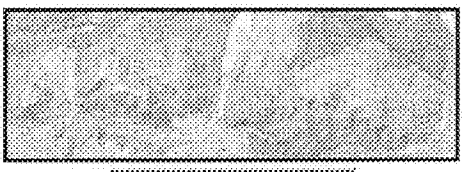
I have reviewed the hydrology revisions, and they are acceptable. I will send the Due Date Letter and packet to you. Have a good evening!

Mike Dillman, Geologist 3
Ohio Department of Natural Resources
Division of Mineral Resources Management
Permitting, Hydrology, & Bonding Section
2045 Morse Road, Building H-3
Columbus, OH 43229-6693
e-mail: mailto:mike.dillman@dnr.state.oh.us
Telephone: 614-265-6628
Fax: 614-265-7998
Division Web Address: http://www.ohiodnr.com/mineral

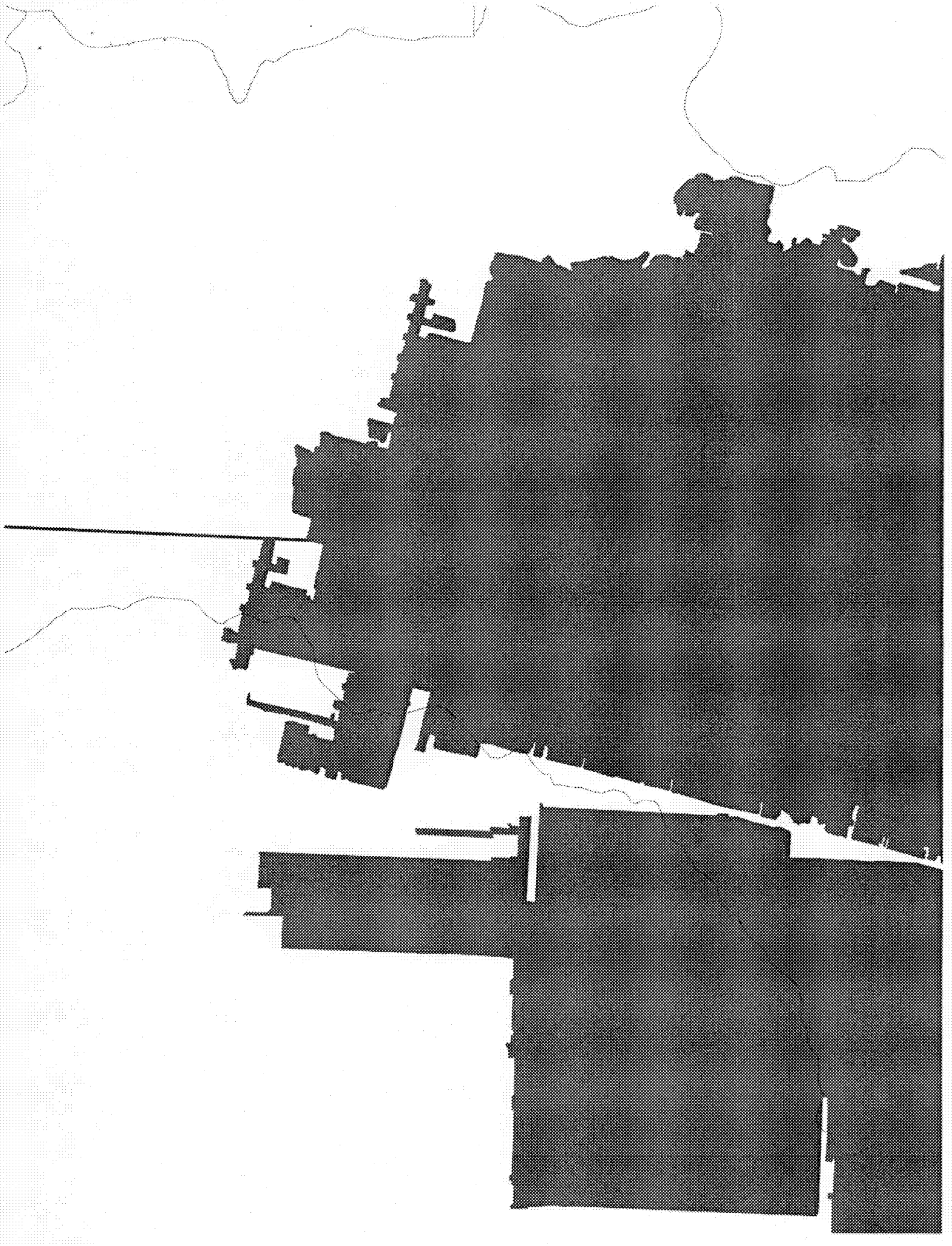
Tracking:	**Recipient**	**Delivery**
	Heavilin, Brent	Delivered: 9/14/2006 5:46 PM

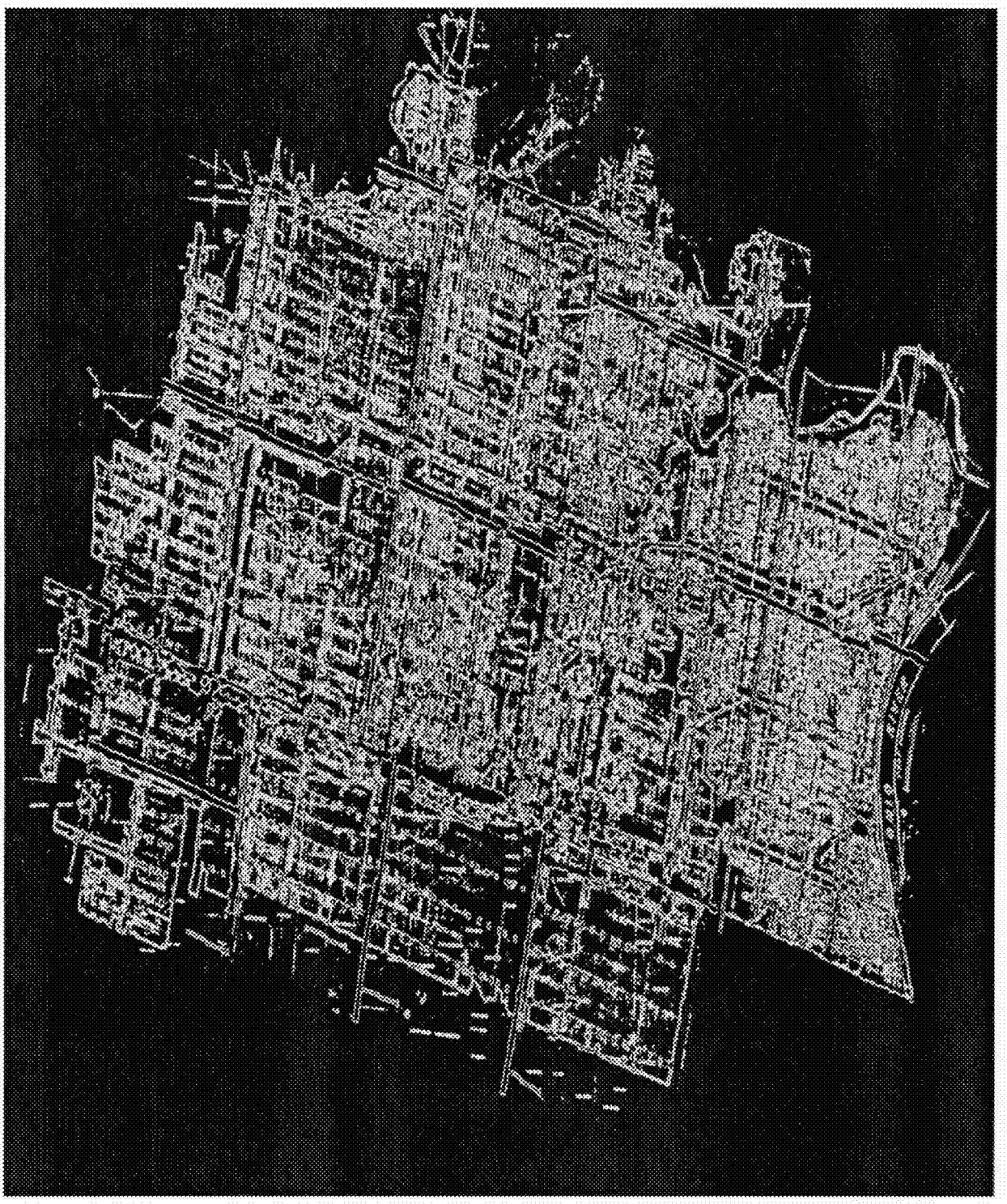
Underground Mine Information Form

Mine API # - 340138027002
Old Mine Code - BT-270
Mine Name - POWHATAN NO.1
Commodity - COAL
Mine Type - UNDERGROUND
Formation(s) Name - PITTSBURGH NO.8
Mine Elevation - 670
Abandoned Date - 1981
Multiple Mines - 0
Drainage - Below



If you can see the picture above the red button then you have the correct plug-in to view the images. If not please click here first





IBR Review Due Date Letter

Applicant: AMERICAN ENERGY CORP
Permit Number: D-425
From: Brent Heavilin, Application Manager
App. Number: IBR-425-11
Date IBR Sent: 07/25/2006
Acreage: 7.1
Date IBR Review Due: 08/24/2006

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

- [x] Hydrologist: Mike Dillman
- [x] Inspector: John Puterbaugh
- [ ] Field Team Leader:
- [x] Environmental Specialist: Brent Heavilin
- [x] Engineer: Scott McDiffitt
- [ ] Soil Scientist:
- [x] Archeologist: Jeff Reichwein
- [ ] Other:

I have reviewed this IBR and find it:

- [ ] ACCEPTABLE No further revision(s) is required. The IBR is for activity that complies with current regulatory requirements.
- [X] UNACCEPTABLE Additional revisions are needed as outlined in the attached document.

Signature: Mike Dillman **Date:** 9/11/06

F93 Rev. 07/01/2001

Dillman, Mike

From: Dillman, Mike
Sent: Friday, August 11, 2006 2:27 PM
To: Heavilin, Brent
Cc: McDiffitt, Scott; Puterbaugh, John
Subject: Initial Hydrology Review AEC IBR-425-11 bleeder shaft

Brent: Here are my comments. Let me know if you have any questions.

IBR-0425-11
merican Energy Co.

Mike Dillman, Geologist 3
Ohio Department of Natural Resources
Division of Mineral Resources Management
Permitting, Hydrology, & Bonding Section
2045 Morse Road, Building H-3
Columbus, OH 43229-6693
e-mail: mailto:mike.dillman@dnr.state.oh.us
Telephone: 614-265-6628
Fax: 614-265-7998
Division Web Address: http://www.ohiodnr.com/mineral

Initial Hydrology Review
American Energy Corporation IBR-0425-11
Mike Dillman
August 11, 2006

IBR Item 33:

1. Part 2, E:

   a. Will dewatering of aquifers be required during the construction of the air shafts? Per OAC 1501:13-4-14(E), address the probable hydrologic consequences of such dewatering operations, or address how construction will prevent aquifer dewatering.

   b. The abandoned underground mine maps from the Ohio Division of Geological Survey place the Powhatan No. 1 Mine in a slightly different position than shown on the IBR Map. At the position shown on the Geological Survey maps, this proposed IBR area would be very close to the Powhatan No. 1 Mine. Address as appropriate regarding the probable hydrologic consequences and plans for preventing interception of the abandoned mine. Address the required in-mine drilling program.

   c. Address disposition of the cuttings from the shafts and how toxics in the cuttings will be identified and handled, per OAC 1501:13-4-14(D)(1) and (D)(2)(f).

2. Submit sealing plans for the air shafts, per OAC 1501:13-4-14(D)(2)(g).

3. Page 23, A(12)(e): Per OAC 1501:13-4-14(A)(2)(b)(v), submit a narrative describing installation of the air shafts and their connection to the mine.

IBR Review Due Date Letter

Applicant: AMERICAN ENERGY CORP
From: Brent Heavilin, Application Manager
Date IBR Sent: 07/25/2006
Date IBR Review Due: 08/24/2006

Permit Number: D-425
App. Number: IBR-425-11
Acreage: 7.1

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

- [x] Hydrologist: Mike Dillman
- [x] Inspector: John Puterbaugh
- [ ] Field Team Leader:
- [x] Environmental Specialist: Brent Heavilin
- [x] Engineer: Scott McDiffitt
- [ ] Soil Scientist:
- [x] Archeologist: Jeff Reichwein
- [ ] Other:

I have reviewed this IBR and find it:

X ACCEPTABLE No further revision(s) is required. The IBR is for activity that complies with current regulatory requirements.

UNACCEPTABLE Additional revisions are needed as outlined in the attached document.

Signature: John M. Puterbaugh **Date:** 8-28-06

RECEIVED
JUL 25 2006
DIVISION OF MINERAL RESOURCES MANAGEMENT
COLUMBUS, OHIO

rev. 07/01/2001

342 High St., Box 471
Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

Jack A. HAMILTON & Associates, Inc.

Civil Engineering
Land Surveying
Mine Permitting
GIS Data Services
Land Development
Global Positioning Systems

September 8, 2006

Mr. Brent Heavilin
ODNR, Division of Mineral Resources Management
2050 East Wheeling Ave.
Cambridge, Ohio 43725

Re: IBR-0425-11, American Energy Corp.

Dear Brent,

In response to your letter dated August 28, 2006, requesting revisions to IBR-0425-11, the following items have been revised.

IBR Item 33:

1. Part 2, E:
   a. Aquifers will not be dewatered. See Addendum to IBR, Item 33.
   b. The underground mine limits previously shown on the IBR map are correct. See Addendum to IBR, Item 33.
   c. Addressed disposition and handling of cuttings (tailings) from the shaft drilling. See Addendum to IBR, Item 33.
2. Submitting sealing plans for the air shaft. See Addendum to IBR, Item 33, Shaft Sealing Plan.
3. Submitting narrative description of shaft installation. See Addendum to Page 23, A(12)(e).

Addendum to Pond/Impoundment Plan:

1. The depth of the Rock Lined Channel has been modified to provide a 0.5 foot depth to the proposed exit.

Addendum to IBR Application, Item 34; Primary Road 3:

2. The proposed culverts shall be constructed with Rock Channel Protection, as specified on the addendum. These structures have been designed to dissipate the energy created by the flow. The velocities at the end of the Rock Channel Protection will be much less than what is discharging out of the culvert.

Sincerely,
Jack A. Hamilton & Associates, Inc.
Consultants for American Energy Corp.

Ellen M. Greer

Ellen M. Greer, Permitting

342 High St., Box 471
Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

Jack A. HAMILTON & Associates, Inc.

Civil Engineering
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September 8, 2006

Mr. Brent Heavilin
ODNR, Division of Mineral Resources Management
2050 East Wheeling Ave.
Cambridge, Ohio 43725

Re: IBR-0425-11, American Energy Corp.

Dear Brent,

In response to your letter dated August 28, 2006, requesting revisions to IBR-0425-11, the following items have been revised.

IBR Item 33:

1. Part 2, E:
   a. Aquifers will not be dewatered. See Addendum to IBR, Item 33.
   b. The underground mine limits previously shown on the IBR map are correct. See Addendum to IBR, Item 33.
   c. Addressed disposition and handling of cuttings (tailings) from the shaft drilling. See Addendum to IBR, Item 33.
2. Submitting sealing plans for the air shaft. See Addendum to IBR, Item 33, Shaft Sealing Plan.
3. Submitting narrative description of shaft installation. See Addendum to Page 23, A(12)(e).

Addendum to Pond/Impoundment Plan:

1. The depth of the Rock Lined Channel has been modified to provide a 0.5 foot depth to the proposed exit.

Addendum to IBR Application, Item 34; Primary Road J:

2. The proposed culverts shall be constructed with Rock Channel Protection, as specified on the addendum. These structures have been designed to dissipate the energy created by the flow. The velocities at the end of the Rock Channel Protection will be much less than what is discharging out of the culvert.

Sincerely,
Jack A. Hamilton & Associates, Inc.
Consultants for American Energy Corp.

Ellen M. Greer

Ellen M. Greer, Permitting

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Flushing, OH 43977
Ph: (740) 968-4947
Fax: (740) 968-4225
e-mail: hamilton@1st.net
www.hamiltonandassoc.com

Jack A.
HAMILTON
& Associates, Inc.

Civil Engineering
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GIS Data Services
Land Development
Global Positioning Systems

LETTER OF TRANSMITTAL

TO: Brent Heavilin
ODNR, Division of Mineral Resources
2050 East Wheeling Ave.
Cambridge, Ohio 43725

DATE: 09-15-06 **COMM.** 02001-49

RE: American Energy Corp.
IBR-0425-11

WE ARE SENDING: ☒ Attached ☐ Under Separate Cover **BY THE FOLLOWING METHOD:** Hand Deliver

DATE	NO.	DESCRIPTION
	4	Sets revised pages and maps, IBR, Mullett Air Shaft

THESE ARE TRANSMITTED: ☒ For Your Use ☒ As Requested ☐ For Review/Comment ☒ For Approval ☐ Returned

REMARKS: Brent, Per our last phone conversation, we have shown the tracts that cover the entire proposed IBR area, supplied two necessary additional deed pages (for tracts 36 and 42), and revised Page 4 of 8, item 20 of the IBR form as requested, as well as the Addendum to Item 20 appropriately. Please do not hesitate to call if you have any questions.

COPY TO: File, American Energy Corp.

SIGNED: Ellen M. Green

IBR Revisions Review Due Date Letter

Permittee **American Energy Corp.** ; IBR No. **425-11**

Date IBR Sent **09-11-06**

Date IBR Review Due **09-25-06**

Application Manager **Brent Heavilin**

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

☒ Hydrologist **Mike Dillman**

☒ Engineer **Todd Crum**

☐ Soil Scientist _____ ☐ PFL, ☐ ARM

☐ Inspector _____

☐ Other _____

I have reviewed this IBR and find it:

☐ acceptable

☐ unacceptable (submit revision comments below or on a separate page)

_____ _____

Signature Date

Sent to Mike Dillon 8-1-06

OhioEPA

State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

July 28, 2006

RE: Incidental Boundary Revision
Application # IBR-425-11
Permit # D-425
Century Mine
American Energy Corporation
Harrison County

Mr. Brent Heavilin
Environmental Specialist
Ohio Department of Natural Resources
Division of Mineral Resources Management
1855 Fountain Square Court, Building H-3
Columbus, Ohio 43224-1383

Dear Mr. Heavilin:

In response to your July 24, 2006 notification, we have reviewed our files and have identified the following features within one mile of the site:

NA	Public water system well(s)
NA	Public water system intake(s)
NA	Drinking water source protection area(s) - ground water
NA	Corridor management zone(s)
NA	Emergency management zone(s)

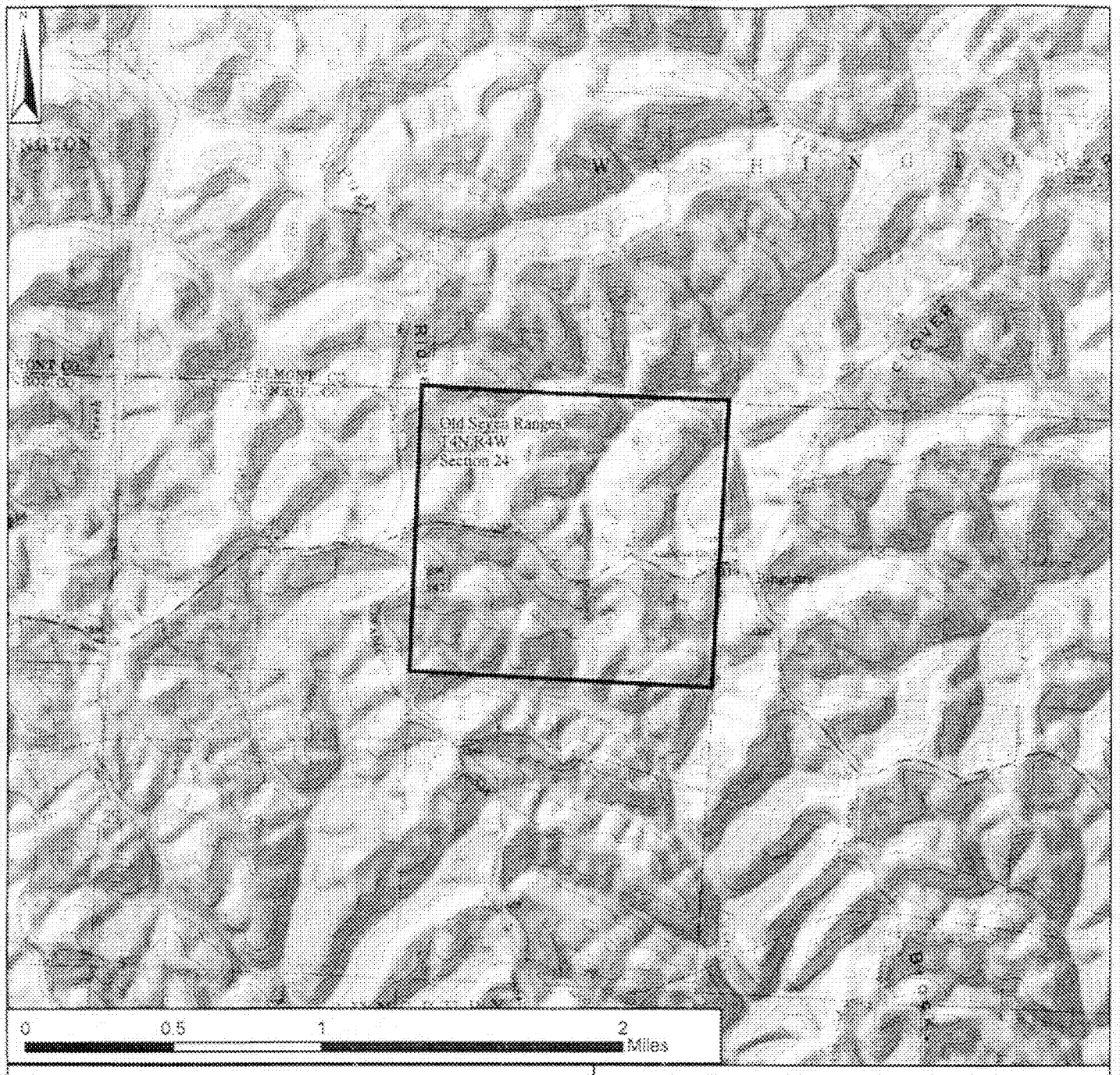
The attached map is provided for your information. Additional areas may be determined in the future, as new public water systems are developed and existing public water systems add or discontinue use of drinking water sources.

Feel free to contact me by phone at (614) 644-2752 or by email at craig.smith@epa.state.oh.us if you have any questions or need additional information.

Sincerely,

Craig Smith
Environmental Specialist
Division of Drinking and Ground Waters

Attachment: Map of Area



LEGEND

Approximate Area Covered in Notice of Application

Public Water System Supplies

Surface Water Intake Well

Drinking Water Source Protection Areas - Ground Water

Community Public Water System

Non-transient, Non-community Public Water System

Transient, Non-community Public Water System

Drinking Water Source Protection Areas - Surface Water

Emergency Management Zone

Corridor Management Zone / Zone of Critical Concern

Protection Area

Incidental Boundary Revision
Permit # D-425, Application # IBR-425-11
Century Mine
American Energy Corporation.

Map created on July 28, 2006

Base Maps

Armstrong Mills 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey
Cameron 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey
Hunter 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey
Woodsfield 7.5 Minute Quadrangle Topographic Map, United States Geologic Survey

OhioEPA

Division of Drinking and Ground Waters

Initial Hydrology Review
American Energy Corporation IBR-0425-11
Mike Dillman
August 11, 2006

IBR Item 33:

1. Part 2, E:

   a. Will dewatering of aquifers be required during the construction of the air shafts? Per OAC 1501:13-4-14(E), address the probable hydrologic consequences of such dewatering operations, or address how construction will prevent aquifer dewatering.

   b. The abandoned underground mine maps from the Ohio Division of Geological Survey place the Powhatan No. 1 Mine in a slightly different position than shown on the IBR Map. At the position shown on the Geological Survey maps, this proposed IBR area would be very close to the Powhatan No. 1 Mine. Address as appropriate regarding the probable hydrologic consequences and plans for preventing interception of the abandoned mine. Address the required in-mine drilling program.

   c. Address disposition of the cuttings from the shafts and how toxics in the cuttings will be identified and handled, per OAC 1501:13-4-14(D)(1) and (D)(2)(f).

2. Submit sealing plans for the air shafts, per OAC 1501:13-4-14(D)(2)(g).

3. Page 23, A(12)(e): Per OAC 1501:13-4-14(A)(2)(b)(v), submit a narrative describing installation of the air shafts and their connection to the mine.

IBR Review Due Date Letter

Applicant: AMERICAN ENERGY CORP
Permit Number: D-425
From: Brent Heavilin, Application Manager
App. Number: IBR-425-11
Date IBR Sent: 07/25/2006
Acreage: 7.1
Date IBR Review Due: 08/24/2006

This letter is to be completed by the application manager and attached to the IBR that is sent to the reviewer. A separate letter is to be completed for each reviewer to whom a copy of the IBR was sent.

Indicate below the person to whom the IBR is being sent:

- [x] Hydrologist: Mike Dillman
- [x] Inspector: John Puterbaugh
- [ ] Field Team Leader:
- [x] Environmental Specialist: Brent Heavilin
- [x] Engineer: ~~Scott McDiffitt~~ Chris
- [ ] Soil Scientist:
- [x] Archeologist: Jeff Reichwein
- [ ] Other:

I have reviewed this IBR and find it:

- [ ] ACCEPTABLE No further revision(s) is required. The IBR is for activity that complies with current regulatory requirements.
- [X] UNACCEPTABLE Additional revisions are needed as outlined in the attached document.

Signature: _____ **Date:** 8-18-06

RECEIVED
AUG 23 2006
DIV. OF OIL, GAS & MINING

P93 Rev. 07/01/2001

AEC 19665

American Energy Corp.
IBR D-425
Engineering Review Comments
08/18/2006
Todd E. Crum

Addendum to Pond/Impoundment Plan:

1. Identify the depth of the Rock Lined Channel on this sheet.

Addendum to IBR Application, Item 34; Primary Road J:

1. The culverts are shown having outlet velocities between 8.0 fps and 12.8 fps. In relation to these high velocities, will the discharges enter existing drainage features capable of handling potentially erosive velocities?

Ohio Department of Natural Resou

BOB TAFT, GOVER — SAMUEL W. SPECK, DIRECTOR

Ohio Department of Mineral Resources Management
Michael L. Sponsler, Chief
1855 Fountain Square Court-Bldg. H-3
Columbus, Ohio 43224-1383
Phone: (614) 265-6633 Fax: (614) 265-7999

To: American Energy Corporation
43521 Mayhugh Hill Road
Twp. Hwy 88
Beallsville, OH 43716

Date: July 24, 2006

Re: AMERICAN ENERGY CORP
Coal Mine Permit Number: D-425
Coal Mine Application Number: IBR-425-11
Land Use Change

The Division of Mineral Resources Management has received an Incidental Boundary Revision application for surface lands owned by you. The applicant is proposing to change the land use on certain areas of your lands upon completion of reclamation. (Please note that if your land within this application contains several different land uses, only the land uses proposed to be changed are pertinent to this document.) In accordance with rule 1501.13-9-17(D) of the Ohio Administrative Code, we need to consult with you about the proposed land use change for these areas.

The applicant identifies the present land use as: Undeveloped
and is proposing to have this area reclaimed to a post mining land use of: Pastureland

If you are satisfied with the proposed post mining land use as described above, please check the appropriate space, sign and date this letter and return in the enclosed envelope.

If you are not satisfied with the proposed post mining land use as described above, please check the appropriate space, sign this letter, provide an explanation on the back of this form, and return in the enclosed envelope. We will contact you to discuss your concerns.

If the Division does not receive a response from you within thirty (30) days after actual or constructive receipt of this letter, we will assume you agree with the present land use and are satisfied with the post mining land use.

☑ Satisfied ☐ Not Satisfied (provide explanation)

Signature: Landowner Treasurer **Date:** 7-27-06

Sincerely,

Brent Heavilin, Application Manager
Permitting Section
Mineral Resources Management

F52A Rev. 07/01/2001

Heavilin, Brent

From: Grieszmer, Butch
Sent: Thursday, August 03, 2006 1:14 PM
To: Heavilin, Brent
Cc: Hines, Tom
Subject: IBR Application #IBR-425-11 for American Energy Corp

I have reviewed the IBR Application #IBR-425-11 for American Energy Corp for a bleeder shaft, access road, sumps, pond, and topsoil.. The project location is Sec. 24, Sunsbury Twp., Monroe Co., Cameron Quadrangle. Our Natural Heritage Database contains no records of rare species, unique natural features, state nature preserves, or scenic rivers on the site.

Butch Grieszmer
ODNR, Division of Natural Areas and Preserves
2045 Morse Rd., F-1
Columbus, OH 43229-6693
(614) 265-6409

August 28, 2006

American Energy Corporation
43521 Mayhugh Hill Road
Twp. Highway 88
Beallsville, OH 43716

RE: IBR-0425-11 Revisions

Gentlemen:

The Division has reviewed your above referenced Incidental Boundary Revision for Permit D-0425 and revisions are required before processing can continue. Please comply with the following application requirements.

IBR Item 33:

1. Part 2, E:

   a. Will dewatering of aquifers be required during the construction of the airshafts? Per OAC 1501:13-4-14(E), address the probable hydrologic consequences of such dewatering operations, or address how construction will prevent aquifer dewatering.

   b. The abandoned underground mine maps from the Ohio Division of Geological Survey place the Powhatan No. 1 Mine in a slightly different position than shown on the IBR Map. At the position shown on the Geological Survey maps, this proposed IBR area would be very close to the Powhatan No. 1 Mine. Address as appropriate regarding the probable hydrologic consequences and plans for preventing interception of the abandoned mine. Address the required in-mine drilling program.

   c. Address disposition of the cuttings from the shafts and how toxics in the cuttings will be identified and handled, per OAC 1501:13-4-14(D)(1) and (D)(2)(f).

2. Submit sealing plans for the air shafts, per OAC 1501:13-4-14(D)(2)(g).

3. Page 23, A(12)(e): Per OAC 1501:13-4-14(A)(2)(b)(v), submit a narrative describing installation of the air shafts and their connection to the mine.

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Addendum to IBR Application, Item 34: Primary Road J:

2. The culverts are shown having outlet velocities between 8.0 fps and 12.8 fps. In relation to these high velocities, will the discharges enter existing drainage features capable of handling potentially erosive velocities?

If you have any questions or need additional information please contact me at (740) 439-9079.

Sincerely,

Brent Heavilin
Environmental Specialist
Mineral Resources Management

CC: Todd Crum
Mike Dillman
John Puterbaugh

August 28, 2006

American Energy Corporation
43521 Mayhugh Hill Road
Twp. Highway 88
Beallsville, OH 43716

RE: IBR-0425-11 Revisions

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Sincerely,

Brent Heavilin
Environmental Specialist
Mineral Resources Management

CC: Todd Crum
Mike Dillman
John Puterbaugh

August 28, 2006

American Energy Corporation
43521 Mayhugh Hill Road
Twp. Highway 88
Beallsville, OH 43716

RE: IBR-0425-11 Revisions

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Sincerely,

Brent Heavilin
Environmental Specialist
Mineral Resources Management

CC: Todd Crum
Mike Dillman
John Puterbaugh

ROUTE SLIP

Date 8/11/06

TO Bro. J. Kearolin; Cambridge

FROM Mike Dillman

SUBJECT DBR-42 Soil

PURPOSE	☐ Circulate To	Initial	Date
☐ Action ______			
☐ Approval			
☐ As Requested			
☐ Comment			
☐ Information			
☐ File ______			
☐ For Follow up on ______			
☐ Reply ☐ Direct ☐ From Me			
☐ Return to			
☐ See me			
☐ Signature			
☐ Other - See Remarks			

REMARKS Bro. J. Let me know if you have any questions.

Mike

OVER ☐

IBR Review Due Date Letter

Applicant: AMERICAN ENERGY CORP
From: Brent Heavilin, Application Manager
Date IBR Sent: 07/25/2006
Date IBR Review Due: 08/24/2006

Permit Number: D-425
App. Number: IBR-425-11
Acreage: 7.1

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- [x] Inspector: John Puterbaugh
- [ ] Field Team Leader:
- [x] Environmental Specialist: Brent Heavilin
- [x] Engineer: Scott McDiffitt
- [ ] Soil Scientist:
- [x] Archeologist: Jeff Reichwein
- [ ] Other:

I have reviewed this IBR and find it:

- [ ] ACCEPTABLE No further revision(s) is required. The IBR is for activity that complies with current regulatory requirements.
- [X] UNACCEPTABLE Additional revisions are needed as outlined in the attached document.

Signature: Michael A. Dillman **Date:** 8/11/06

F93 Rev: 07/01/2001

Dillman, Mike

From: Dillman, Mike
Sent: Friday, August 11, 2006 2:27 PM
To: Heavilin, Brent
Cc: McDiffitt, Scott; Puterbaugh, John
Subject: Initial Hydrology Review AEC IBR-425-11 bleeder shaft

Brent: Here are my comments. Let me know if you have any questions.

IBR-0425-11
merican Energy Co.

Mike

Mike Dillman, Geologist 3
Ohio Department of Natural Resources
Division of Mineral Resources Management
Permitting, Hydrology, & Bonding Section
2045 Morse Road, Building H-3
Columbus, OH 43229-6693
e-mail: mailto:mike.dillman@dnr.state.oh.us
Telephone: 614-265-6628
Fax: 614-265-7998
Division Web Address: http://www.ohiodnr.com/mineral

Initial Hydrology Review
American Energy Corporation IBR-0425-11
Mike Dillman
August 11, 2006

IBR Item 33:

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